DRAFT EIR

INNOVATION PARK

Planned Unit Development

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SUMMARY

Innovation Park Planned Unit Development Environmental Impact Report

Introduction

This Environmental Impact Report (EIR) is an informational document intended to inform the public and decision makers about the environmental consequences of the proposed Innovation Park Planned Unit Development (Innovation Park PUD) as well as the California Northstate University (CNU) Medical Center Project (together referred to as the *proposed project*) for the City of Sacramento. The EIR considers the environmental impacts of implementation of the proposed project, and has been prepared by the City of Sacramento pursuant to the requirements of the California Environmental Quality Act (CEQA) and CEQA Guidelines.

This EIR describes the existing environmental conditions within the Innovation Park PUD area including the CNU Medical Center site (referred to in this section as the *project area*) and its vicinity, analyzes potential impacts to environmental resources that could result from the proposed Innovation Park PUD, and identifies mitigation measures that could avoid or reduce the magnitude of impacts that are considered significant or potentially significant. The EIR also evaluates a range of alternatives to the proposed Innovation Park PUD and considers issues related to land use, population, employment, and housing. Environmental resource topics considered within the EIR include: aesthetics, light, and glare; air quality; biological resources; cultural and tribal resources; energy; global climate change; hazards and hazardous materials; hydrology and water quality; noise and vibration; public services; transportation and circulation; and utilities.

This EIR is being published as a Draft EIR. The Draft EIR will be subject to review and comment by the public, as well as responsible agencies and other interested jurisdictions, agencies, and organizations for a minimum of 45 days. The public may comment on the EIR by submitting written comments at any time during the public review period. The City will complete a Final EIR, which will include the written comments received regarding the Draft EIR, responses to substantial environmental issues raised in the comments, and any changes to the Draft EIR that are required by the response to written comments, or that are initiated by staff.

Upon publication, the environmental documents described above are available at http://www.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports, and may be viewed in printed form at the City's Community Development Department, 300 Richards Boulevard, Third Floor, Sacramento, CA 95811, and at the City of Sacramento Central Library located at 828 I Street, Sacramento. Hearings regarding the project will occur at

various times, and the City posts hearing agendas at kiosks at City Hall and on its website at http://www.cityofsacramento.org/.

City staff responsible for the drafting of the environmental document may be contacted with questions:

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The Final EIR will be submitted to the Sacramento City Council for its consideration. As part of the project review and consideration, and before approving the project, the City Council is required under CEQA to certify that the EIR has been prepared in compliance with CEQA, and to consider adoption of the Findings of Fact pertaining to this EIR, specific mitigation measures, a Statement of Overriding Considerations relating to any identified significant and unavoidable effects, and a Mitigation Monitoring Plan.

Project Location

The project site is located in Sacramento, California, approximately 80 miles east of San Francisco and 85 miles west of Lake Tahoe. Sacramento is a major transportation hub, the point of intersection of transportation routes that connect Sacramento to the San Francisco Bay Area to the west, the Sierra Nevada to the east, Los Angeles to the south, and Oregon and the Pacific Northwest to the north. The city is bisected by major freeways including Interstate 5 (I-5), which traverses the state from north to south; Interstate 80 (I-80), which provides an east-west connection between San Francisco and Reno; and U.S. Highway 50, which provides an east-west connection between Sacramento and South Lake Tahoe. Two railroads, the Union Pacific Railroad (UPRR) and the BNSF Railway (BNSF), also transect Sacramento. Daily Amtrak service is provided from the Sacramento Valley Station at 4th and I Streets (on the UPRR line) and links Sacramento to the Bay Area; the Central Valley, south to Bakersfield, and beyond to Southern California; Roseville, Auburn, and points east to the Sierra; Redding and points north to Seattle, Washington; Amtrak regional bus connections throughout Northern California; and points east to Chicago, Illinois.

Innovation Park Planned Unit Development

The Innovation Park PUD area is a 183.7-acre site, located within the city of Sacramento's North Natomas community in the northwestern portion of the city. Five parcels comprise the Innovation Park PUD area including Assessor's Parcel Numbers (APNs) 225-0070-059, 225-0070-060, 225-0070-063, 225-0070-067, and 225-0070-076. The Innovation Park PUD area includes the Sleep Train Arena building and former Sacramento Kings practice facility, parking areas surrounding the arena structure, and partially and fully undeveloped areas to the north of the arena and parking areas. The Innovation Park PUD area is bounded by the curvilinear ring of Sports Parkway and is roughly bisected by East Entrance Road from the east, and by South Entrance Road from the

southeast. The land uses immediately surrounding the site consist of mixed-use commercial, multi-family residential, and vacant land uses, and are bounded by Del Paso Road to the north, Truxel Road to the east, Arena Boulevard to the south, and East Commerce Way to the west.

The Innovation Park PUD area is located approximately 0.3 miles east of I-5 and approximately 1.1 miles north of I-80, and can be accessed from Sacramento roadways via: West Entrance Road and Main Entrance, which provide access from East Commerce Way to the west; South Entrance, which provides access from Arena Boulevard to the south; and East Entrance, which provides access from Truxel Road to the east.

California Northstate University Medical Center

The proposed California Northstate University (CNU) Medical Center would be located on approximately 35 acres of the southwest portion of the Innovation Park PUD area. Access to the site of the proposed CNU Medical Center is currently provided by the Main Entrance to the west and Sports Parkway South to the south.

Project Objectives

CEQA Guidelines Section 15124(b) requires that an EIR project description include a statement of the objectives intended to be achieved by the project. The objectives describe the purpose of the project and are intended to assist the lead agency in developing a reasonable range of alternatives for consideration in the EIR, as well as to assist the decision makers in assessing the feasibility of mitigation measures and alternatives.

The objectives for the proposed Innovation Park PUD are presented below, followed by the specific objectives for the proposed CNU Medical Center.

Innovation Park PUD

The overall goal of the proposed Innovation Park PUD is the orderly and systematic development of the Innovation Park PUD area that is compatible with site characteristics and consistent with the City's goals and policies. More specifically, the objectives of the proposed Innovation Park PUD are as follows:

1. Transform and redevelop the prior Sleep Train Arena site from an underutilized sports complex into a vibrant innovation district focused on health, education, and living, with a mix of uses that enhances the fabric of North Natomas and the region.
2. Provide policy and design guidance for new development that is compatible with and well-integrated within the existing community.
3. Provide synergistic connections between medical office, residential, and commercial development within and surrounding Innovation Park.
4. Develop a mixed-use environment that provides residents with the opportunity to live, work, and play within Innovation Park.

5. Provide a range of housing types and densities, including but not limited to step-up housing, to meet the varied needs and preferences of those who will work both in the Plan Area and the greater region.

6. Provide an urban-core adjacent environment that prioritizes multimodal transportation including pedestrian, bicycles, and vehicles through a centralized complete street framework.

7. Integrate a combination of proximal uses, including commercial, education, employment, residential, and other use opportunities and services.

8. Support the integration of the locally preferred route of the Sacramento Regional Transit District (SacRT) Green Line light rail line.

9. Create a flexible entitlement structure to provide for more cost efficient housing and the ability to respond to future job and market opportunities.

10. Promote environmental sustainability through the use of green building technology, water conservation, renewable energy resources, active transportation options, or other community innovations.

11. Provide diverse and engaging urban open space opportunities suitable for the urban context.

CNU Medical Center

The overall goal of the proposed CNU Medical Center is the development and operation of a teaching hospital and medical campus in North Natomas. More specifically, the objectives of the proposed CNU Medical Center at Innovation Park are as follows:

1. Offer innovative, high-quality health care for patients residing in the Natomas area and northern Sacramento County.

2. Develop a teaching hospital in close proximity to the CNU campus to provide training opportunities and accommodation for its students.

3. Promote new, highly accessible, and innovative care models by designing facilities to incorporate the most advanced techniques available for diagnosis and treatment.

4. Provide trauma services (planned Level II after certification) to respond to mass casualty incidences and other emergency response needs of the city and region, and to provide for healthcare and emergency services along the I-5 and I-80 corridors.

5. Develop an integrated university campus to accommodate all current and planned colleges within CNU, designed to create a distinct campus identity through the use of consistent materials and colors, pedestrian-friendly circulation, and attractive site features such as open space and other amenities for staff and community members.

6. Provide for clinical laboratory and pharmaceutical research and development facilities to support the medical mission of CNU.

7. Provide for student, faculty, and senior housing to service the CNU community.

8. Accommodate helicopter access directly to the facility and design helistop facilities in accordance with the following objectives:

    a. Lessen significant impacts on the surrounding community.

    b. Locate the helistop to meet the functional needs of the hospital.

    c. Comply with all applicable regulatory and life safety requirements for helistops and helicopter travel, including but not limited to Federal Aviation Administration (FAA) requirements for flight path obstruction clearance.

    d. Locate the helistop on a site where access is controlled, to ensure public safety during helicopter landings and take-offs.

    e. Construct a visually unobtrusive helistop, integrating into the design of the hospital building.

9. Provide economic stimulus for the city of Sacramento and the surrounding region by creating high-paying jobs that will have a multiplier effect on regional economic growth.

10. Develop a staff and patient-friendly hospital with a convenient location, available parking, and efficient patient and emergency access in close proximity to amenities and patient services.

Existing Conditions

Land Use Designations and Zoning Districts

Innovation Park PUD

The Innovation Park PUD area is currently under the Urban Center High General Plan land use designation, which allows for a density range of 24 to 250 dwelling units per acre and a floor area ratio (FAR) ranging from 0.55 to 88.0. Allowable building heights in the Urban Center High land use designation range from 2 to 24 stories. The Urban Center High land use designation is described in the 2035 General Plan (page 2-76) as providing “thriving areas with concentrations of uses similar to downtown [Sacramento].” Urban centers are intended to include employment-intensive uses, high-density housing, and a wide variety of retail uses, including large-format retail, local shops, restaurants, and services. Allowable uses within the Urban Center High land use designation include: retail, service, office, and residential uses; gathering places such as plazas, courtyards, or parks; and compatible public, quasi-public, and special uses.

The Innovation Park PUD area is zoned as SPX-PUD (Sports Complex/Planned Unit Development). The SPX zone is intended to ensure that development and use of land and improvements to that land support a sports complex for professional and amateur sports, and accommodate arena events, exhibitions, and performances that provide for the education, information, recreation, culture, or entertainment of Sacramento area residents and visitors, in accordance with the specific land use policies of the city general plan, community plans, and the PUD guidelines (Sacramento City Code Section 17.224.200). A conditional use permit (CUP) is required for each use in the SPX zone. Permitted uses within an SPX zone are generally limited to those that support a large sports complex or are temporary in nature.

Existing and Adjacent Uses

The project area includes the Sleep Train Arena building and the former Sacramento Kings practice facility, both of which are no longer used for their primary purpose, as Sacramento Kings operations are now conducted at the Golden 1 Center and adjacent practice facility in Downtown Sacramento. The majority of the southern portion of the project area consists of a paved parking lot and the private Sports Parkway, which surrounds most of the project area. The northern portion of the project area is undeveloped. This area contains the foundation and excavated area for a partially completed baseball field and stadium, for which work was discontinued many years ago. The excavated area is now filled with water and supports riparian habitat along the edges. Uses adjacent to the project area include mixed-use commercial, multi-family residential, and vacant land uses.

Proposed Land Use Designations

Under the proposed Innovation Park PUD, the project area would be redesignated as Urban Center Low. The Urban Center Low land use designation would allow a residential density range of 20–150 units per acre, and nonresidential floor area ratios between 0.40 and 4.0. Allowable building heights under the Urban Center Low designation generally range from two to seven stories, with taller heights permitted if supported by the context and market.

The current zoning designation would be replaced with General Commercial Planned Unit Development (C-2 PUD) zoning, based on the existing zoning included in the City's Planning and Development Code.

As described in Sacramento City Code Section 17.216.710, the C-2 zone allows for a variety of single- and multi-family residential uses, commercial and institutional uses, and industrial and agricultural uses. The C-2 zone also allows for a variety of conditional and accessory uses, maximizing the flexibility of these zones. The designation of PUD zoning allows the City to designate specific deviations from the City's Planning and Development Code, allowing for the expansion or reduction of development limits that are applied to particular zoning designations.

The C-2 zone allows a combination of typical land uses, such as commercial, office, residential, and open space. The proposed Innovation Park PUD does not prescribe any particular mix of uses within each category or block in the project area, although districts within the PUD area are envisioned to have dominant uses such as residential or health/medical. The proposed Innovation Park PUD anticipates that allowable development for each use developed would depend, in part, on the amount of previously established development capacity that is taken up by other uses.

Development Program

The proposed Innovation Park PUD would establish assumed levels of development for the project area as a whole, as well as specific development standards for each land use category. The proposed Innovation Park PUD requires a site plan and design review process that would ensure that future development projects are consistent with the goals, policies, objectives, and other provisions of the Innovation Park PUD; the Innovation Park PUD EIR and mitigation monitoring

program; any applicable development agreements; all other applicable plans, ordinances, and development regulations. The site plan and design review process is also intended to ensure that development under the proposed Innovation Park PUD would be compatible with surrounding uses. In addition, some future development proposals in the project area would require a conditional use permit.

As proposed, the General Plan's Urban Center Low land use designation would be provided for in the proposed Innovation Park PUD. The C-2 PUD would allow all uses normally permitted in the C-2 zone except adult entertainment business uses.

A tentative master parcel map for the Innovation Park PUD would create a set of general baseline parcels that would allow subsequent future development in the project area. This approach would provide the flexibility to utilize lot line adjustments for appropriately sizing parcels for individual developments without requiring subsequent amendments to the Innovation Park PUD.

Development Program Densities

The project area could develop to serve a diverse mix of uses: employment uses, various market sector housing types, commercial, shopping, destination amenities, and a range of personal and professional services. As described above, the C-2 PUD zone could be developed in a number of ways. However, for the purposes of this analysis, the City has prepared an anticipated development scenario, based on the mix of development likely to occur in the project area. **Table S-1** summarizes the anticipated development scenario for the project area that is analyzed in this EIR.

Circulation

Roadway Network

The project area would include a circulation network that would provide connectivity to the surrounding road system, while supporting a range of transportation modes and providing a street framework that is more representative of a dense multimodal environment. The circulation network for the proposed Innovation Park PUD would utilize existing internal roadways within the project area, modifying them as needed to meet the functional requirements of the Innovation Park PUD's circulation plan. It is anticipated that a modified block approach would be integrated in the project area where feasible; however, the key planned backbone infrastructure would include two main multimodal arterial roadways that would bisect the project area: Innovator Drive and B Street. These two main roadways would provide connectivity at existing access points that connect the project area's road network to the major arterial roadways to the north, west, south, and east (Del Paso Road, East Commerce Way, Arena Boulevard, and Truxel Road, respectively).

Sports Parkway would be extended around the northern portion of the project area, completing the internal ring generally near the perimeter of the project area. In addition, the existing portion of the internal ring roadway on the southern border of the project area, Sports Parkway South, would be shifted north to provide enough separation for safety and visibility purposes between the intersection of Arena Boulevard/Innovator Drive located off-site and the intersection of Sports Parkway South/Innovator Drive located on-site. Innovator Drive would also be extended

TABLE S-1
DEVELOPMENT ASSUMPTIONS FOR THE INNOVATION PARK PLANNED UNIT DEVELOPMENT

Parcel	Land Area Acres	Land Use[a]	Density Units/Acre	FAR	Units	Gross Floor Area Nonresidential (sf)
Innovation District						
A1	1.7	SMUD	NA		0	0
A2	4.8	MF	75 du/ac	NA	324	0
A3	4.6	R-MU	70 du/ac	1.69	290	15,000
Subtotal A	*11.1*				*614*	*15,000*
Life District						
B1	5.5	MF	40 du/ac	NA	187	0
B2	16.9	MF	20 du/ac	NA	254	
B3	3.5	R-MU	40 du/ac	0.95	313	4,000
B4	5.4	R-MU	28du/ac	0.68	121	7,000
B5	4.0	Park		NA		
Subtotal B	*41.0*				*875*	*11,000*
Innovation District						
C1	4.6	R-MF	70 du/ac		290	
C2	4.7	Office	NA	1.17	0	180,000
C3	4.5	R-MU	80 du/ac	.95	324	20,000
Subtotal C	*13.8*				*614*	*200,000*
Health District						
D	35.6	Medical Center Campus			600	3,413,400
D-1	10.4	Medical Center Campus				266,000
Subtotal D	*46.0*				*600*	*3,679,400*
Life District						
E1	0.8	Park/Plaza	NA	NA		
E1A	5.9	Hotel, Office		1.3		240,000
E2	7.2	R-MU	40 du/ac	0.93	231	4,000
E3	5.8	MF	30 du/ac	NA	140	0
E4	12.0	School, Open Space				
Subtotal E	*31.7*				*370*	*244,00*
Subtotal Districts	***143.5***				***3,071***	***4,149,400***
ROW	40.2	Major Streets, Curvilinear Park				
Total	**183.7**				**3,071**	**4,149,400**

NOTES: du/ac = dwelling units per acre; FAR = floor area ratio; MF = multi-family residential; NA = not applicable; R-MU = residential mixed-use; ROW = right-of-way; sf = square feet; SMUD = Sacramento Municipal Utility District

SOURCE: Data compiled by Environmental Science Associates in 2021

northwest, from its intersection with Sports Parkway South to the intersection of Del Paso Road and Town Center Drive/Sports Parkway, completing one of the two proposed bisecting arterial roadways. A roadway segment would connect the West Entrance roadway to the proposed extension of Innovator Drive.

Five Star Way/E Street, which also extends south from Del Paso Road, would be connected to the internal ring road, Sports Parkway. West Entrance Road/D Street would be extended from the intersection of West Entrance Road and Sports Parkway eastward through the center of the project area to Innovator Drive. Main Entrance Road would extend eastward, connect to Sports Parkway and Innovator Drive, before connecting to the intersection of the East Entrance and Sports Parkway, completing the second of the two proposed bisecting arterial roadways. Secondary roads are not included in the proposed Innovation Park PUD or Tentative Master Parcel Map at this time because their locations and shape would evolve along with the use or type of future developments occurring in the project area.

Innovator Drive

Innovator Drive would be a four-lane arterial roadway between B Street and Sports Parkway South, with a 12-foot-wide median or center turn lane and street-side parking. North of B Street, Innovator Drive would be a two-lane roadway. Sidewalks along Innovator Drive would have a 8-foot-wide minimum paved width, and would be separated from the roadway by an approximately 8-foot-wide planting/lighting strip.

Sports Parkway

Sports Parkway would be a two-lane major collector, with parking on one side around the northern portion of the project area and parking on both sides along the southeast portion of the project area. In both areas, the roadway would have a 12-foot-wide median or center turn lane. Sidewalks and planer strips along Sports Parkway would have varying widths and may meander adjacent to the roadway. Sports Parkway would include a Class I bike trail along the outer edge of the roadway.

Minor Collector Roads

Typical collector roads would include two or four vehicle travel lanes, with one or two lanes of travel in each direction, respectively, and 6-foot-wide Class II bicycle lanes and 7-foot-wide parking lanes on each side of the road. All collector roads would have sidewalks on each side of the road with a minimum paved width of 8 feet, separated from the roadway by 8-foot-wide planter strips.

Collector Gateways

The project area would be accessed through three collector gateways. The West Entrance Road/ D Street and the East Entrance Road gateways would be configured to include one lane of travel in each direction, with the center through lane on each side also functioning as a turn lane. Travel lanes would be separated by a 23-foot-wide median or center turn lane. Each roadside would include a 6-foot-wide Class II bicycle lane, 7-foot-wide parking lane, and 6-foot-wide sidewalks

on both sides of the road, with sidewalks separated from the roadway by 6.5-foot-wide planting and lighting strips.

The Main Entrance Road would be configured as a four-lane road, with two travel lanes in each direction. Travel lanes would be separated by a median or center turn lane. Each roadside would include a 6-foot-wide Class II bicycle lane, 7-foot-wide parking lane, and 6-foot-wide sidewalks on both sides of the road, with sidewalks separated from the roadway by 6.5-foot-wide planting and lighting strips.

The project area would also be accessed through modified major collector gateways at Sports Parkway and Five Star Way/E Street. Those roadway segments would be configured to include one lane of travel in each direction, separated by a median. Each roadside would include a 6-foot-wide Class II bicycle lane and 6-foot-wide sidewalks on both sides of the road. No parking would be provided.

Transit

The current preferred alignment of the SacRT Green Line light rail route would be located along Truxel Road, running north/south to the east of the project area. SacRT's preferred alignment is the one analyzed in this EIR. Regional Transit bus routes are also provided in North Natomas.

Bicycle

The Innovation Park PUD proposes to include on-street bike lanes or off-road Class I trails on all major and minor collector roadways in the project area, including in the curvilinear park along Sports Parkway. Internal bikeways within the project area would connect to on-street facilities on Del Paso Road, Arena Boulevard, East Commerce Way, and Truxel Road at the gateways of the project area.

Pedestrian

Pedestrian circulation facilities in the project area would include sidewalks and pedestrian paths. Streets in the project area would have sidewalks that would connect to the existing City sidewalk network at the gateways of the project area.

Parks and Open Space

The Innovation Park PUD proposes approximately 24.3 acres of public and publicly accessible parks and open space amenities for visitors and residents. An urban plaza at the intersection of Innovator Drive and B Street is proposed to provide open space and serve as a gathering location. The 0.8-acre plaza would be highly visible and centrally located in the project area, and could serve residents of the overall project area, residents of the CNU Medical Center campus, and visitors.

Located along B Street just east of Innovator Drive would be Nature Park, a natural passive open space designed using elements of an existing habitat. This approximately 4-acre park would provide easy access from residences, offices, and the CNU Medical Center, and for visitors. As a nature-based park, it could fuse programmed and non-programmed experiences. The key feature

of nature park would be the existing native habitat and associated overlooks, shoreline, wildlife (primarily birds), and vegetation. Because of its location, nearby residences would have immediate physical and visual access from all sides. Numerous opportunities exist for its design and realization—trails and connections to adjacent uses, picnic and seating areas, lawn spaces, and special landscapes such as meadows, pollinator gardens, play areas, or event areas.

Innovator Loop Curvilinear Park would be adjacent to Sports Parkway, and would intersect each of the streets entering the project area. The loop would serve as a Class I bike route and pedestrian path, complete with streetscape and landscape improvements (totaling approximately 5.7 acres). The loop would accommodate workers who bicycle to work, residents and visitors who participate in cycling, and residents and workers who enjoy walking for fitness, health, or general wellness.

A school may be located within the Life District, bounded by B Street and Sports Parkway. In addition to meeting the educational needs of students, the site may include approximately 4.4 acres of sports fields. Access to these active recreation facilities would be made available to the community during non-school hours for organized games and/or events.

The CNU Medical Center would also have approximately 9.1 acres of publicly accessible open space, gardens, walkways, and outdoor amenities.

Utilities

Existing utility systems in the project area are sized to provide services for Sleep Train Arena operations at full capacity. The existing utility system would be accessible within the project area and used where feasible to serve future development under the proposed Innovation Park PUD.

Water

The project area would be served by the city of Sacramento for domestic and fire suppression water needs. The project area is located in an area of the city that is served by an extensive system of service mains located in the main arterial roadways around the site. The proposed Innovation Park PUD's water distribution system would largely follow the street system throughout the entire project area.

There are presently three connections from these outer perimeter roads to the area within Sports Parkway:

- *West Connection:* 10-inch service in the Main Entrance roadway, between East Commerce Way and Sports Parkway.
- *South Connection:* 10-inch service in the South Entrance roadway, between Arena Boulevard and Sports Parkway.
- *East Connection:* 12-inch service in the East Entrance roadway, between Truxel Road and Sports Parkway.

There also is a 12-inch line within Five Star Way, south of Del Paso Road and approximately 1,000 feet west of Truxel Road. This line stops at the northeast corner of the project area, as existing surface improvements along Five Star Way stop before entering the project area. The proposed Innovation Park PUD would include a public water distribution system that would be located in the street system throughout the project area, beginning with a loop in Sports Parkway. Where feasible, existing water infrastructure serving the project area would be connected to the new public water mains for the project area. In addition to the three existing services listed above, which would connect the exterior roads to the Sports Parkway loop, the existing 12-inch line in Five Star Way would extend southward to connect to the proposed Sports Parkway loop.

Wastewater

Wastewater generated in the project area would be collected by the Sacramento Area Sewer District's separated sewer system, then conveyed to the Sacramento Regional County Sanitation District's system and ultimately treated at the district's wastewater treatment plant in Elk Grove. The proposed Innovation Park PUD would have a wastewater collection and conveyance system consisting of sewer lines under streets throughout the project area.

The existing wastewater conveyance system in the project area is sized to accommodate historic peak usage for previous operations of Sleep Train Arena. This existing conveyance system would be modified and expanded, where required, to accommodate development allowed under the proposed Innovation Park PUD. Under the Innovation Park PUD, individual developments would tie into the project area's conveyance system via service laterals as part of future development proposals.

Stormwater Drainage

The project area is within Watershed 5 of the North Natomas Drainage Basin system, which collects and treats stormwater from nine watersheds in the developed areas of North Natomas. Watershed 5 generally encompasses an area east of East Commerce Way, south of Del Paso Road, north of Arena Boulevard, and west of the East Drainage Canal; the project area composes the majority of Watershed 5. Stormwater in the project area is currently conveyed to Detention Basin 5-A, located at the southwest corner of Terracina Drive and the East Drainage Canal, where stormwater is treated and then pumped into the East Drainage Canal. The proposed stormwater drainage infrastructure in the project area would be designed to connect to existing drainage infrastructure that drains into Detention Basin 5-A and conveys drainage flows through the existing Basin 5 drainage and treatment pathways. Onsite grading would result in managed stormwater flows.

The existing Watershed 5 storm drain system consists of pipes ranging from 12 inches to 96 inches to drain the entire Watershed 5 to Basin 5-A. Existing drainage from the project area connects via a 60-inch connection on the southern edge of the project area, and an 84-inch pipe on the eastern edge of the project area. These connections would remain as connection points for the proposed Innovation Park PUD.

Energy

Electrical Service

The project area's electrical demands would be provided by Sacramento Municipal Utility District (SMUD). The project area has existing electrical infrastructure that serves the Sleep Train Arena building and supporting structures. SMUD has indicated that a new electrical substation would be required to serve development within the project area. A SMUD substation is planned in the northwest portion of the PUD area. This substation would serve uses within the Innovation Park PUD area. In addition, as described above, existing infrastructure would be utilized and expanded to serve the rest of the project area as necessary.

The following description generally summarizes the requirements for new SMUD distribution substations, such as the one that will be located within the Innovation Park PUD area. While exact design specifications are not available, this summary provides a good faith effort at evaluating the size, capacity, infrastructure, and design of the distribution substation to analyze the potential environmental impacts associated with the infrastructure. The proposed substation would be approximately 1.5 acres in size and would be energized by connecting to 69,000 volts (69 kV) subtransmission lines that are supplied by existing SMUD Bulk Substations. Bulk substations typically step-down transmission line voltage of 230,000 volts (230 kV) to subtransmission voltage of 69 kV through power transformers. The distribution substation would in turn step down the electricity supply to 12,000 volts (12 kV) for delivery to residential neighborhoods. The proposed distribution substation would include approximately two transformers, eight capacitor banks, two backup battery systems, two metal clad switchgears, and two poles with a disconnect switch. The substation would require an access road of at least 20-feet wide if the access roads are straight, and 24-foot wide if there are turns. The proposed distribution substation would receive electricity from existing overhead 69-kV subtransmission lines on the north side of the PUD area, to the proposed substation location in the northwest corner of the PUD area. Infrastructure and appurtenances for the 12kV distribution supplied by the substation will be located either within the public roadway right-of-way or within a public utility easement adjacent to the public roadway. SMUD's standard construction for sub-transmission lines is overhead construction with poles that if pole-mounted would be approximately 65-feet tall. The distribution substation would distribute electricity via underground and/or overhead 12- kV lines to neighborhoods. Construction of the proposed distribution substation would occur over a 1-year period.

To maintain security and public safety, a minimum 10-foot fence would be installed around the perimeter of the proposed substation site. SMUD would work with the City to determine the most appropriate landscaping and screening improvements. Lighting would be included as required by the National Electrical Safety Code for substation operation. The installed lighting system would be designed for purposes of nighttime operations and maintenance and would be oriented to minimize glare onto surrounding property.

Natural Gas Service

The project area would be provided with natural gas by Pacific Gas and Electric Company (PG&E), which provides service to the city of Sacramento through both high- and low-pressure systems. The project area has existing natural gas infrastructure that serves the Sleep Train Arena building

and supporting structures. A PG&E facility, such as a vault or additional infrastructure, could be accommodated within the project area if needed to serve the project. As described above, existing infrastructure would be utilized and expanded to serve the rest of the project area as needed.

Telecommunications

The project area would acquire telephone and data service from existing carrier(s) that are established in North Natomas. Connections would be completed in telephonic and data manholes, constructed within existing or proposed roadways. Individual project applicants would be required to coordinate with the City and other utility providers to determine optimal solutions for gaining access to adjacent lines, potentially including open cuts or directional drilling that could be done in telephonic and data manholes concurrent with other utility infrastructure connections. If feasible, service to the project area and subsequent individual developments under the proposed Innovation Park PUD would be coordinated with SMUD in common joint trenches.

Financing Plan: Enhanced Infrastructure Financing District

The applicant has requested that the City of Sacramento consider formation of an Enhanced Infrastructure Financing District (EIFD) to finance the construction of some infrastructure components that are studied in this EIR. The City is working with the applicant to analyze the potential EIFD.

Planned Unit Development Construction

Buildout of the Innovation Park PUD is anticipated to occur over approximately 16 years, beginning in 2022 through 2038. As part of PUD construction, demolition of the existing Sleep Train Arena would occur. This action is anticipated to occur prior to development of the CNU Medical Center. Construction in the PUD area would occur in response to market conditions.

California Northstate University Medical Center

This Draft EIR also includes consideration of a currently proposed project within the proposed development area for the Innovation Park PUD: the CNU Medical Center. This project is described below, including the CNU Medical Center project site; physical characteristics of the development program; operational characteristics, such as hours of operation and employment; and construction characteristics.

CNU is a private education institution that operates two physical locations in the region. One campus is located at 9700 West Taron Drive in Elk Grove. This campus includes CNU's College of Medicine, College of Pharmacy, College of Dental Medicine, and a 15,000-square-foot (sf) event center. A second campus is located at 2910 Prospect Park Drive in Rancho Cordova and accommodates CNU's College of Health Sciences.

CNU is proposing to provide emergency and other medical-related services in the Sacramento region by developing a hospital and medical campus within the proposed Innovation Park PUD area. Over time, the proposed CNU Medical Center may relocate the existing medical schools and

facilities from their existing locations in Elk Grove and Rancho Cordova to the project area. When fully developed, the proposed CNU Medical Center would include the following elements:

- A 420-inpatient-bed hospital with a helicopter landing site (helistop) to support trauma operations (Level II following certification).
- An outpatient clinic.
- A medical office building.
- Three parking structures with accessory retail.
- Three university buildings.
- Two student dormitories.
- Two faculty/staff residential buildings.
- A senior housing facility.
- A multi-use facility with daycare, sports facilities, and campus amenities.
- A central plant and mechanical yard to support the hospital and medical uses.
- Two buildings for the manufacture of pharmaceuticals with limited laboratory uses.
- Public paths and gathering spaces for low-impact exercise and social interaction.
- Vehicular and bicycle parking in structures and lots to support the variety of uses on the CNU Medical Center campus.

In total, the proposed CNU Medical Center would develop approximately 3.6 million sf of new uses on a campus that would be constructed in phases over approximately 10 years. The proposed CNU Medical Center would generate approximately 7,420 jobs at buildout. When fully developed, the hospital would consist of 730,000 sf and approximately 420 total patient beds. The CNU Medical Center's dormitories would include 300 units to house 600 students, the faculty/staff residential buildings would provide 200 units that could house 250 faculty/staff members and their families, and the active senior living building would accommodate approximately 200 residents. The CNU Medical Center would also include buildings used for education and instructional uses, pharmaceutical manufacturing, laboratories and research, and administrative functions.

Project Location

The proposed CNU Medical Center would be located on approximately 35 acres in the southwest portion of the project area. The CNU Medical Center campus would be generally situated between Innovator Drive to the east, B Street to the north, and Sports Parkway/C Street to the west and south.

CNU Medical Center Development Plan

The CNU Medical Center is anticipated to be developed in phases, as described below. At buildout, the CNU Medical Center campus would consist of 18 buildings divided into four distinct zones:

- **Medical Zone**: Generally comprising the hospital, central plant, an ambulatory care building, a medical office building, and associated parking and retail uses.
- **University Zone**: University teaching, laboratory, and administration buildings, and associated parking.
- **Faculty/Student Housing Zone**: Dormitory buildings, and buildings to provide housing for faculty and administrators.
- **Research and Laboratory Zone**: Buildings containing laboratories and pharmaceutical research, development, and manufacturing.

Table S-2 provides details of each of the buildings proposed for each these zones.

Phasing

The proposed CNU Medical Center would be constructed in three phases. During Phase 1, generally from 2022 to 2026, the main hospital and associated central plant and parking would be constructed in the Medical Zone, along with the initial buildings in the University and Research/Laboratory Zones.

Starting in 2025 and continuing until 2029, Phase 2 would involve buildout of the shelled spaces of the hospital (constructed during Phase 1) and construction of the other major medical buildings, along with two of the retail/parking buildings in the Medical Zone. The University Zone would be expanded with a second university building, and construction in the Faculty/ Student Housing Zone would be initiated with the addition of the first buildings for housing of students, faculty, and administrative staff, as well as a daycare facility. Another laboratory/ pharmaceutical building would complete the Research/Laboratory Zone.

Construction of Phase 3 is anticipated to start in 2028 and to be completed by 2032. This phase would add the final retail and parking building in the Medical Zone, the final university and retail/parking buildings in the University Zone, construction of the senior care residential building, and the final additional housing buildings and sports building in the Student/Faculty Housing Zone.

A more detailed description of the phasing and proposed buildings is presented below.

TABLE S-2
SUMMARY OF CALIFORNIA NORTHSTATE UNIVERSITY MEDICAL CENTER PROJECT

Proposed Facility	Total Building Area (sf)	Floors	Basement Levels	Total Levels
Medical Zone	1,609,000			
Hospital Building	730,000	14		14
Central Plant Building	90,000	2	1	3
Ambulatory Care Building	175,000	5	1	6
Medical Building	150,000	7	1	8
Retail with Parking Building 1	207,000	7	1	8
Retail with Parking Building 2	257,000	6	1	7
University Zone	918,000			
University Building 1	256,000	5	1	6
University Building 2	216,000	5		5
University Building 3	189,000	6	1	7
Retail with Parking Building 3	257,000	5		5
Faculty/Student Housing Zone	672,400			
Admin/Dormitory Building 1	140,000	6	1	7
Admin/Faculty Building 1	126,000	6	1	7
Admin/Dormitory Building 2	140,000	6	1	7
Admin/Faculty Building 2	126,000	6	1	7
Sports Facility with Daycare Building	54,000	2		2
Active Senior Living (RCFE) Building	86,400	5	1	6
Research/Laboratory Zone	480,000			
Laboratory/Pharmaceutical Building	240,000	5	1	6
Pharmaceutical Building	240,000	5	1	6
Total CNU Medical Center	**3,679,400**			

NOTES: CNU = California Northstate University; RCFE = residential care facility for the elderly; sf = square feet

SOURCE: Data compiled by Fong & Chan Architects in 2021.

Phase 1

Phase 1 of the CNU Medical Center would involve the construction of 1,218,000 sf of space, undertaken in two distinct subphases. An initial Phase 1A would include construction of the hospital and associated central plant and parking, with a total square footage of 722,000 sf in the Medical Zone. Phase 1B would include a total of 496,000 sf in the University and Research/ Laboratory Zones.

Hospital

The hospital building would include 14 stories, including a ground-level medical clinic level, 12 stories for hospital functions and a mechanical level. The building would be approximately

730,000 sf in size, with approximately 420 patient beds at full buildout. The initial submitted phase would contain 263 patient beds.

The ground level medical clinic is the lowest floor with an 84,000-sf floor plate area.

The hospital would comprise a nine-story central tower and two seven-story patient-bed wings with a floor plate area of 48,000 sf atop a three-story, main hospital podium with a 84,000-sf floor plate area. Hospital administration would be housed on the top level of the central tower. There is a helistop on a roof level of the East Patient Bed Tower.

The highest point of the building would be the central tower crown approximately 280-feet above ground level (elevation of 297 feet North American Vertical Datum of 1988).

- **Diagnostic and Treatment Podium:** This component would consist of a four-story podium including the ground-floor medical clinics. The ground-floor medical clinics would not be required to be above the flood plain level. There would be a fourth-floor transitional level with the cafeteria, the kitchen, and a mechanical floor level. The total area of the ground-floor medical clinics, diagnostic and treatment podium, and fourth-floor transitional level would be approximately 383,300 sf.

- **West Patient Bed Tower:** The west patient bed tower building would be seven stories in height, starting at the fifth floor and rising to the 12th floor, and would occupy approximately 208,900 sf. The west patient bed tower would include the central vertical circulation tower. The west patient bed tower would be built on top of the diagnostic and treatment podium and would contain approximately 207 patient beds.

- **East Patient Bed Tower:** The east patient bed tower building would be seven stories in height, starting at the fourth floor, and would be approximately 137,200 square feet. The east patient bed tower would be built on top of the diagnostic and treatment podium and would contain approximately 56 patient beds on two floors. For structural purposes, the structural shell of the east patient bed tower would be fully constructed during construction of Phase 1. Five floors (floors 6 through 10), occupying 98,000 sf, would be shelled for future completion during Phase 2.

The hospital building would house all acute-care services and required support space for the CNU Medical Center, including the following departments or units:

- Imaging
- Cardiology
- Perioperative Services
- Urgent Care and Emergency Department
- Obstetrics
- Neonatal Intensive Care Unit
- Pediatrics
- Intensive and Coronary Care Unit suites

- Step-down patient care units
- Medical/surgical nursing units
- Concierge-level nursing units
- Pharmacy Department
- Clinical labs
- Sterile Processing Department
- Other ancillary support spaces
- Utility rooms

Primary access to the hospital and the other medical buildings in the campus's Medical Zone would be from Innovator Drive, approximately midway between Sports Parkway and B Street. The main entry road would be a four-lane facility that would rise about 14 feet between the intersection with Innovator Drive and the hospital entrance.

The hospital's ambulance and service and delivery entrances would be on B Street, approximately 203 feet east of Sports Parkway. The hospital's ambulance bay would be located on the north side of the hospital, facing toward B Street, and would be accessed via an approximately 256-foot-long ambulance entry road that would rise at a grade of approximately 7 percent from about elevation 19 feet msl at B Street to 38 feet msl at the hospital's ambulance bays.

The hospital building would include telecommunications equipment for use by emergency personnel such as the Sacramento Police Department.

Helistop

A helistop would be constructed on the roof of the patient-bed wing of the hospital tower. The helistop would be used exclusively for the transfer of patients and medical staff from one site to another; it would not serve as a permanent base for air ambulance vehicles, and no fueling, service, long-term parking, or storage of helicopters or related equipment would occur at the CNU Medical Center site.

The design of the helistop and the flight paths to and from the CNU Medical Center are regulated by the FAA. (See Chapter 4 of FAA Advisory Circular 150/5390-2B, September 2004.) The proposed helistop would be designed to accommodate aircraft similar to the Airbus H135 helicopter model. Anticipated flight paths would be direct, although helicopters may fly alternative routes under certain weather conditions or in the case of a life-threatening emergency. The hospital and helistop would be lighted in accordance with FAA Advisory Circular 70/7460-1L Change 2 (Obstruction Marking and Lighting) and FAA Advisory Circular 150/5390-2C (Heliport Design), Chapter 4 (Hospital Heliports), Section 415 (Heliport Lighting), respectively, including but not limited to obstruction lighting, landing pad perimeter lighting, and other related lighting. Helicopters would use typical running lights, which would include red and green right-of-way lights on the sides of the aircraft and a strobe light to indicate the helicopter's position in low-visibility conditions.

Central Plant and Mechanical Yard

The proposed CNU Medical Center's Central Plant Building would be approximately 90,000 gross sf in size, and would consist of the following elements:

- Two levels of Central Plant and support space at 15,000 sf per level, for a total of 30,000 sf.
- 15,000 sf of exterior raised mechanical yard.
- 30,000 sf below grade and 30,000 sf at grade level for parking, for a total of 60,000 sf of parking.

The Central Plant's main level and mechanical yard would be designed to be raised to mitigate against the 200-year floodplain level. The parking levels would include a total of 200 parking spots.

The Central Plant would provide power and heating to the entire CNU Medical Center campus and would include four diesel-powered emergency generators on the second floor. Approximately 90,000 gallons of diesel fuel would be stored in two underground tanks that would be designed to withstand being submerged during a flood event.

University Building 1

University Building 1 would be five stories in height, with a total area of 256,000 sf and a planned footprint of 43,200 sf. The building would include approximately 216,000 sf above grade, and there would be a 40,000-sf, 133-space below-grade parking level. The building would contain classrooms, teaching laboratories, student support services, and administrative uses. The building would also include an auditorium space that could accommodate 950 persons. For graduation ceremonies and as a student amenity, an outdoor amphitheater capable of accommodating up to 2,000 persons would be provided.

Pharmaceutical Building

The Pharmaceutical Building would be approximately 240,000 sf in size, including a below-grade floor for parking. The building would be four stories in height with a planned footprint of 40,000 sf. The building would contain research and manufacturing facilities for pharmaceutical products. It would include space for quality control and testing areas, secured and controlled access storage areas, a loading area, conference rooms, staff support services, and administrative functions. There would be a single below-grade floor designed to accommodate 15,000 sf for administrative functions and loading, and 25,000 sf for a central plant that would support University Building 1 and the Pharmaceutical Building.

The Pharmaceutical Building would be constructed with a clean-room design. A clean room is an enclosed space in which airborne particulates, contaminants, and pollutants (such as dust, airborne organisms, or vaporized particles) are kept within strict limits. The outside air entering a clean room is filtered and cooled by several outdoor air handlers that use progressively finer filters to exclude dust, and the air inside is constantly recirculated through fan units containing high-efficiency particulate-absorbing filters to remove internally generated contaminants. Special lighting fixtures, walls, equipment, and other materials are used to minimize the generation of airborne particles. The air temperature and humidity levels inside the clean room are tightly controlled. Staff enter and leave through airlocks (sometimes including an air shower stage), and

wear protective clothing such as hoods, face masks, gloves, boots, and coveralls. This is to minimize the carrying of particulates by the person moving into the clean room. Equipment inside the clean room is designed to generate minimal air contamination. Clean rooms are not sterile (i.e., free of uncontrolled microbes); only airborne particles are controlled.

Pharmaceutical manufacturing produces a deliverable product by turning Active Pharmaceutical Ingredients (API) into a medication or other product. An API generates a desired pharmacological effect. It is mixed with excipients (pharmacologically inactive substances) to create the form of delivery, such as a pill or injection. Pharmaceutical manufacturing at the CNU Medical Center would be used for two purposes: researching new uses for existing APIs, and converting APIs into injectable medications.

The Pharmaceutical Building would have three secure areas for storing pharmaceutical ingredients. One area would be used to store incoming APIs. Another area would be used to fully manufacture medication. The third area would be where completed, tested, and U.S. Food and Drug Administration–authorized medication is stored and distributed.

Parking in Phase 1

Vehicular Parking

In total, 3,934 parking spots are planned for Phase 1. Of these, 449 parking spots would be structured parking and 1,057 parking spots would be in surface parking lots. Additional details are provided below:

- In Phase 1A, only a portion of the existing parking lot will be used for temporary parking; the remainder will be used for staging areas, parking for construction employees and equipment.
- For Phase 1A: 91 parking spaces, over six percent of all spaces, will be designated as EV installed and have access to a charging station. 151 parking spaces, over ten percent of all spaces will be considered EV ready (inclusive of the EV Installed spaces). For Phase 1A – ten (10%) percent of the spaces will be EV capable in lieu of twenty (20%) percent to align with the Sacramento implementation requirements and to address the fact that a significant percentage of the parking are in temporary lots.
- For Phase 1B: The minimum required parking will be reduced to 75% of total to reflect Transportation System Management Program reductions. 110 parking spaces, over six percent of all spaces, will be designated as EV installed and have access to a charging station. 183 parking spaces, over ten percent of all spaces will be considered EV ready (inclusive of the EV Installed spaces).
- For Phase 1B – ten (10%) percent of the spaces will be EV ready in lieu of twenty (20%) percent to align with the Sacramento implementation requirements and to address the fact that a significant percentage of the parking are in temporary lots.

Bicycle Parking

Bicycle Long Term Parking: A planned total of 393 bicycle long term parking spots are planned for Phase 1. A total of 293 bicycle long term parking spots will be surface spots. A total of 100 bicycle long term parking spots will be structured spots. E-Bike charging stations will be provided. Number of appropriate spots to be determined.

Bicycle Short Term Parking: A planned total of 71 bicycle short term parking spots are planned for Phase 1B. All the bicycle parking spots will be surface spots.

Phase 2

The construction of Phase 2 is anticipated to be initiated before the final completion of Phase 1. This phase would continue expansion and development in the Medical Zone, further the development of the University Zone, complete the development of the Research/Laboratory Zone, and initiate construction in the Faculty/Student Housing Zone. In total, Phase 2 would involve the construction of 1,622,500 sf of space.

Hospital

Phase 2 would include internal buildout of the east patient-bed tower shell (98,000 sf) connected to the central tower atop the four-story main hospital podium. During Phase 2, the shelled floors of the east patient bed tower would be completed and the total patient bed count would increase by 157 beds, to a total of 420 patient beds with a total area of approximately 730,000 sf.

Ambulatory Care Building

The Ambulatory Care Building would be located immediately east of the CNU Medical Center hospital, and would be 175,000 sf in size and five stories in height with a planned footprint of 30,000 sf and a 25,000-sf basement level. This building would contain outpatient medical services and other support areas. Specific departments and programs would be determined at a later date.

Medical Building

The Medical Building would be located in the Medical Zone, along Innovator Drive just north of the main entry to the campus. It would be approximately 150,000 sf in size and seven stories in height, including a basement level, with a planned footprint of 18,750 sf. This building would contain medical services and hospital administration.

Retail with Parking Building 1

Retail with Parking Building 1 would be located on the western edge of the Medical Zone, adjacent to the Central Plant, along Sports Parkway south of B Street. The parking structure portion of the building would be 207,000 sf in size and would contain approximately 430 parking spaces. The building would be five stories in height with one basement level and would include 26,000 sf of first-floor retail, food service, and other supporting uses.

Retail with Parking Building 2

Retail with Parking Building 2, the final building constructed in the Medical Zone, would be located at the intersection of Innovator Drive and B Street. The parking structure would be 257,000 sf in size and would contain approximately 760 parking spaces. The building would have five floors with a footprint of 29,000 sf, and two parking levels of 56,000 sf at and below grade. The parking structure would include 29,000 sf of first-floor retail and medical retail services.

University Building 2

University Building 2 would be located at the southern end of the campus, south of Sports Parkway and immediately west of Innovator Drive. This university building would be a five-story building with approximately 216,000 sf of space and a planned footprint of 43,200 sf. The building would contain classrooms, teaching laboratories, student support services, an auditorium, and administrative functions.

Admin/Dormitory Building 1

Located in the Faculty/Student Housing Zone, Admin/Dormitory Building 1 would be a residential building of approximately 140,000 sf, five stories in height with a basement level, and a planned footprint of 20,000 sf. The building would provide approximately 150 units housing 300 students on five floors. The first floor would include 20,000 sf of administration and student support space. A below-grade parking level would include approximately 67 parking spaces.

Faculty Housing Building 1

Also in the Faculty/Student Housing Zone, Faculty Housing Building 1 would be approximately 126,000 sf, six stories in height with an additional basement level, and would have a planned footprint of 18,000 sf. The building would provide approximately 100 units housing 100 faculty families on four floors. The first floor would include 18,000 sf of administration and faculty support space. There would be a below-grade parking level with approximately 60 spaces.

Daycare Facility Building

At the southern end of the Faculty/Student Housing Zone, along Sports Parkway, the Daycare Facility Building would be approximately 13,750 sf and one story in height with a secure outdoor space of 3,000 sf. The building could accommodate up to approximately 175 children and 30 staff members at the facility. The building would be designed for expansion of the daycare facility by another 13,750 sf during Phase 3 (see below).

Laboratory/Pharmaceutical Building

The Laboratory/Pharmaceutical Building would be approximately 240,000 sf in size, including a below-grade floor for administrative functions, loading, and 83 parking spaces. The building would be five stories in height with a planned footprint of 40,000 sf. The building would contain research and development facilities for pharmaceutical products, STEM research facilities, and areas for manufacturing small-batch medicinal molecules for pre-clinical and clinical applications to the U.S. Food and Drug Administration for approval of new uses of medications or new drug development. Some areas of the building would be of clean-room design. The building would also include an approximately 40,000-sf floor for laboratory uses. The laboratory floor would contain clinical, pathology, and specialty laboratories for support of the CNU Medical Center. The Laboratory/Pharmaceutical Building also would include staff support services, conference rooms, classrooms, and administrative functions.

Clinical laboratories support hospital operations and are used for testing and processing samples, such as blood samples from patients. Clinical laboratories are regulated by three state and federal oversight agencies: the California Division of Occupational Safety and Health, aka Cal/OSHA; the U.S. Department of Health and Human Services' Centers for Medicare & Medicaid Services;

and the Centers for Disease Control and Prevention's Clinical Laboratory Improvement Amendment. Although the clinical laboratory would mainly serve the hospital, the clinical laboratory would also be available to smaller clinics, such as the medical clinic planned on the CNU Medical Center site.

Parking in Phase 2

Parking in Phase 2 would cumulatively add to the parking provided for Phase 1, as described below.

Vehicular Parking

In total, 4,355 cumulative parking spots are planned for Phase 2. Of these, 3,122 parking spots would be structured parking and 1,233 parking spots would be in surface parking lots. The minimum required parking will be reduced to 50% of total to reflect Transportation System Management Program reductions and Light Rail Proximity Reduction. 131 parking spaces, over six percent of all spaces, will be designated as EV installed and have access to a charging station. 436 parking spaces, over twenty percent of all spaces will be considered EV ready (inclusive of the EV Installed spaces)

Bicycle Parking

Bicycle Long Term Parking: A planned total of 989 bicycle long term parking spots are planned for Phase 2. A total of 669 bicycle long term parking spots will be surface spots. A total of 320 bicycle long term parking spots will be structured spots. E-Bike charging stations will be provided. The actual number of appropriate spots is still to be determined.

Bicycle Short Term Parking: A planned total of 188 bicycle short term parking spots are planned for Phase 2. All the bicycle parking spots will be surface spots.

Phase 3

Phase 3 of the CNU Medical Center project would involve the completion of building construction in the Medical, University, and Student/Faculty Housing Zones. In total, construction of Phase 3 would add 838,900 sf of development to the CNU Medical Center campus. The specific buildings to be constructed during Phase 3 are described below.

University Building 3

University Building 3 would be located near Sports Parkway, at the northern end of the University Zone. This building would be approximately 189,000 sf in size on seven levels (one below grade), with a planned footprint of 27,000 sf. The building would comprise classrooms, teaching laboratories, student support services, an auditorium, and administrative functions. The building also would include a two-level, 54,000-sf Central Plant and 27,000 sf of retail space.

Retail with Parking Building 3

Retail with Parking Building 3 would be located at the southern end of the University Zone, south of the relocated Sports Parkway. The building would be 257,000 sf in size and would contain approximately 1,200 parking spaces. The building would be four stories in height with one basement level, and would include four floors of structured parking and a 50,000-sf first floor

with retail and dining services. The parking structure would employ a semiautomatic stacked parking system on three floors and standard parking on one floor.

Admin/Dormitory Building 2

Admin/Dormitory Building 2 would be an approximately 120,000 square foot residential building with a planned footprint of 24,000 sf. The building would be five stories in height, with a total of 6 levels that would include a below grade parking level. The building would include approximately 150 units that would house 300 students on four floors. The first floor would include 24,000 sf of administration and student support space. The below grade parking level would accommodate approximately 67 parking spaces.

Faculty Housing Building 2

Admin/Faculty Building 2 would be an approximately 126,000 sf seven-level residential building that would be six stories in height plus a basement parking level, with a planned footprint of 18,000 sf. There would be approximately 100 units housing 100 faculty and staff and their families on six floors. The below grade parking level would provide approximately 60 vehicular parking spaces.

Active Senior Living (Residential Care Facility for the Elderly) Building

The Active Senior Living Building would be a residential care facility for the elderly (RCFE). It would be approximately 86,400 sf in size and five stories in height with a basement level, and would have a planned footprint of 14,400 sf. The RCFE would accommodate approximately 100 residents on four floors. The first floor of the building would include approximately 14,400 sf of administration and resident support space. The below-grade parking level would include approximately 48 parking spaces.

Daycare Facility Building Expansion and Sports Court

In Phase 3, the Daycare Facility Building initially constructed in Phase 2 would be expanded by approximately 13,750 sf with a secure outdoor play area of 3,000 sf. The expanded daycare facility could accommodate an additional approximately 175 children and 30 staff; at buildout, the daycare facility would accommodate a total of 350 children and 60 staff.

A single-story sports court would be constructed on the roof level of the Daycare Facility Building. The sports court would be 30,000 sf in size, and would contain basketball, tennis, and volleyball courts for student use.

Parking in Phase 3

Parking in Phase 3 would cumulatively add to the parking provided for Phase 2, as described below. With completion of Phase 3, the CNU Medical Center would include 5,186 vehicular parking spaces and long term parking for 1,445 bicycles.

Vehicular Parking

In total, 5,186 cumulative parking spots are planned for Phase 3. Of these, 3,683 parking spots would be structured parking and 270 parking spots would be in surface parking lots. The minimum required parking will be reduced to 50% of total to reflect Transportation System

Management Program reductions and Light Rail Proximity Reduction. For Phase 2, 131 parking spaces, over six percent of all spaces, will be designated as EV installed and have access to a charging station. 436 parking spaces, over twenty percent of all spaces will be considered EV ready (inclusive of the EV Installed spaces)

Bicycle Parking

Bicycle Long Term Parking: A planned total of 1,445 bicycle long term parking spots are planned for Phase 3. Structured bicycle parking would have 1,150 spots, while 295 spots would be surface parking. E-Bike charging stations will be provided. The number of appropriate spots is still to be determined.

Bicycle Short Term Parking: A planned total of 246 bicycle short term parking spots are planned for Phase 3. All the bicycle parking spots will be surface spots.

CNU Medical Center Landscaping and Site Amenities

Landscape improvements during Phase 1 would include installation of hardscape and softscape features. Landscape improvements at buildout of the CNU Medical Center would total approximately 9.1 acres.

Monuments with directional signals, flowering shrubs, and accent lighting would be installed at the CNU Medical Center site's main entry along Innovator Drive. Pedestrian-scale lighting, consisting of pole-mounted and ground light fixtures, and columnar trees would be provided along the campus's arrival spine. Parking lots would be 50 percent shaded with canopy shade trees. Building gateways would include seating elements, wayfinding signage, pedestrian-scale lighting, and flowering trees and shrubs.

The quad on the CNU Medical Center campus would include a fully accessible amphitheater with a canopy-covered stage, formal and casual seating, lawn terraces, a seminar court adjacent to University Building 1, a meditation area in the vicinity of the Faculty Housing buildings, a barbeque area near the Laboratory/Pharmaceutical Building, an outdoor play area adjacent to the Daycare Facility Building, WiFi-ready outdoor rooms with casual seating and low-scale lighting, rainwater gardens, and a promenade with wayfinding signage for walking and exercise that would be designed to also serve as emergency vehicle access. The campus's edge would include evergreen screen trees and shrubs. Approximately 638 trees are planned as part of the landscaping over the three phases of construction. Currently, 987 trees are located on the existing CNU Medical Center site. As many existing trees as feasible and appropriate for the final master plan would be kept in place over the three phases of construction.

Landscaping would be irrigated by a water-efficient, low-flow, point-source system designed to provide adequate watering to support plant growth and ensure deeply rooted plant material while avoiding excess water application. The system would be programmable, allowing operation during late-night and/or early-morning hours, with multiple start times and cycles. The system would interface with a weather-based sensor that would adjust the amount of water applied to the plant material based on daily weather conditions. Irrigation materials specified for the site would be selected on the basis of durability and ease of maintenance.

Bicycle and Pedestrian Amenities

Bicycle and pedestrian amenities would be provided throughout the CNU Medical Center campus. At buildout, and during every phase, bicycle parking would exceed the requirements of the City's Planning and Development Code, with a total of 1,409 bicycle parking spots provided at buildout. Access to bike lanes and sidewalks along the surrounding backbone roadway streets would also be provided. E-Bike charging stations will be provided. Number of appropriate spots to be determined.

The proposed CNU Medical Center campus would include an extensive network of pedestrian paths that would support low-impact exercise, while connecting uses in all campus development zones and providing connections to the pedestrian network of sidewalks in the larger Innovation Park PUD area.

CNU Medical Center Infrastructure

Drainage and Water Quality

The existing CNU Medical Center site is a paved parking lot with some storm drainage infrastructure. These storm drains connect to the existing storm drainage system in Sports Parkway and Innovator Drive. The stormwater is conveyed to Detention Basin 5-A, where stormwater is treated and then pumped into the East Drainage Canal.

The existing stormwater drainage infrastructure within the entire CNU Medical Center site would be demolished. A new stormwater drainage system would be designed to accommodate the proposed site layout. This stormwater drainage infrastructure would connect to the Innovation Park PUD area's new stormwater drainage infrastructure within Innovator Drive, Sports Parkway, and B Street.

The estimated existing impervious surface area at the site of the proposed CNU Medical Center is approximately 85 percent; the estimated post-project imperviousness for the entire site would be approximately 75 percent. CNU proposes to install low-impact development bioretention planters with underdrains as needed on the CNU Medical Center site to provide stormwater quality treatment before the stormwater is discharged from the site. The stormwater quality features would be designed in accordance with the Stormwater Quality Design Manual for the Sacramento Region to reduce the stormwater runoff pollution to the maximum extent practicable.

Water Supply Service

The Innovation Park PUD area, including the CNU Medical Center site, would be served by the City of Sacramento for domestic and fire suppression water needs. The proposed Innovation Park PUD would have a water distribution system that would largely follow the street system throughout the project area. The CNU Medical Center would connect to the new water infrastructure in Innovator Drive, Sports Parkway, and B Street to provide fire flow and domestic water needs.

Within the CNU Medical Center site, a private water loop would be incorporated into the project design to serve the CNU Medical Center's Medical, University, Housing, and Research/

Laboratory Zones. The Innovation Park PUD area's water system would be designed to account for the CNU Medical Center's projected water demand.

Wastewater Service

Wastewater in the project area would be collected by the Sacramento Area Sewer District's separated sewer system, conveyed to the Sacramento Regional County Sanitation District's system and ultimately treated at the district's wastewater treatment plant in Elk Grove. The proposed Innovation Park PUD would have a wastewater collection and conveyance system consisting of sewer mains under streets throughout the project area. The CNU Medical Center would connect to the new sewer infrastructure in Innovator Drive, Sports Parkway, and B Street for wastewater discharge via new sewer service laterals. The Innovation Park PUD area's sewer system would be designed to accommodate the CNU Medical Center's projected sewage generation.

Recycled Water Service

Recycled water service is not yet available on the site of the proposed CNU Medical Center. However, CNU is proposing to include recycled-water infrastructure throughout the CNU Medical Center site to facilitate connection in the future. If this service becomes available, CNU proposes to use recycled water for landscape irrigation and other allowable uses.

Electrical Service

SMUD provides electricity to the site of the proposed CNU Medical Center from existing underground 12-kilovolt facilities that would remain and are connected to SMUD's underground 12-kilovolt facilities adjacent to the existing Sleep Train Arena building. The exact locations and future infrastructure improvements would be determined through discussions with SMUD, but it is likely the CNU Medical Center could be served by the proposed SMUD substation in the PUD area on Parcel A, with appropriate infrastructure extended to the CNU Medical Center, at least for the initial Phase 1 construction and operation. The proposed substation may be expanded to provide additional power to the CNU Medical Center.

Electrical service would be provided by SMUD and through the on-site generation of renewable energy, including a planned solar photovoltaic system. The CNU Medical Center would install solar photovoltaics on CNU-affiliated building roofs. Phase 1B would include solar installations on University Building 1 and Pharmaceutical Building 1.

Phase 2 plans for solar installations on the Medical Office Building, University Building 2, and Pharmaceutical Building 2. Phase 3 plans for solar installations on University Building 3. The dormitories, faculty housing, and parking garages may have solar installations, depending on the planned use of the roof for activities or parking. Additional electrical demand at buildout of the CNU Medical Center would be planned to be partially met with 100 percent renewable energy provided through SMUD's Greenergy program.

Natural Gas Service

Natural gas is supplied to the site of the proposed CNU Medical Center by PG&E. The exact locations and possible future infrastructure improvements to support the CNU Medical Center

would be determined through discussions with PG&E. No off-site improvements to PG&E gas lines are proposed to accommodate buildout of the proposed CNU Medical Center.

Electric-Vehicle Charging Stations

Currently, the City of Sacramento requires the installation of electric vehicle (EV) charging stations. For nonresidential uses that propose more than 201 parking spaces, 6 percent of the total number of parking spaces provided on-site must be EV Capable.

The City's recently adopted EV charging ordinance (Ordinance No. 2021-0015) requires new nonresidential, multifamily dwellings, and hotels and motels to provide 20 percent EV Capable charging spaces and at least one installed, operational Level 2 EV charger, effective January 1, 2023, for new construction of three stories or less, and effective January 1, 2026, for new construction of four stories or more. (Sacramento City Code Chapter 15.38.)

To comply with planned future increases in EV parking requirements, CNU is planning to proactively meet these requirements. One hundred fifty six (156) parking spaces, over six percent of all spaces, would be designated as EV installed and have access to a charging station. Five hundred and nineteen (519) parking spaces, over twenty percent of all spaces would be considered EV ready (inclusive of the EV Installed spaces).

CNU Medical Center Project Operations

The CNU Medical Center hospital would be designed and equipped to operate as a Level II Trauma Center to accommodate a possible future designation by Sacramento County based on distribution of emergency services and facility capability. To facilitate future designation as a Level II Trauma Center, which can initiate definitive care for all injured patients, the hospital would include the following elements:

- 24-hour immediate coverage by general surgeons, as well as coverage by the specialties of orthopedic surgery, neurosurgery, anesthesiology, emergency medicine, radiology, and critical care.
- Tertiary care needs, such as cardiac surgery and hemodialysis.
- Trauma prevention and continuing education programs for staff.
- A comprehensive quality assessment program.

Note that a future potential designation of the proposed hospital as a Level II Trauma Center could only occur once the hospital is operational, and the designation is subject to approval by Sacramento County and compliance with California Code of Regulations Title 22, Sections 100254–100256 and 100259.

Employment and Visitation

The facilities constructed at the proposed CNU Medical Center during each phase would become operational upon the completion of each phase and would continue to operate during construction of subsequent phases. The hospital would employ 4,345 full time employees at buildout. In total,

approximately 7,420 employees would be at the CNU Medical Center. The proposed CNU Medical Center would be home to more than 1,000 people living on-site, including 600 students, 250 staff/ faculty members including their families, and 200 residents of the active senior living building.

At buildout, daily visitation to the CNU Medical Center would consist of approximately 21,780 visits by employees, patients, delivery personnel, visitors, and students. At the end of each school year, there would be a graduation ceremony at the CNU School of Medicine that would temporarily increase visitation. The maximum approximate number of attendees during graduation ceremonies would be 2,000 people. The site would also include a 950-seat auditorium that could be used for various on-site events.

Helicopter and Ambulance Trips

Table S-3 summarizes the anticipated average number of ambulance and helicopter trips during operation of Phases 1 and 2, and following buildout of Phase 3.

TABLE S-3
NUMBER OF ANTICIPATED AVERAGE AMBULANCE AND HELICOPTER TRIPS TO THE HOSPITAL

Phase	Ambulance Trips		Helicopter Trips	
	Annually	Weekly	Annually	Weekly
1	3,600	69	52	1
2	4,200	81	78	1.5
3	4,200	81	78	1.5

SOURCE: Data provided by Fong & Chan Architects in 2021.

CNU Medical Center Construction

The general construction schedule and phasing for the proposed CNU Medical Center, along with a brief description of construction activities, equipment, materials and services, and the associated workforce, are presented below.

Construction Timing and Schedule

Construction of all three phases of the proposed CNU Medical Center is assumed to be completed within a period of 10 years, starting in 2022 and finishing in approximately 2032. Phase 1 is expected to be constructed between 2022 and 2026, as described further in **Table S-4**.

The timing of construction at the CNU Medical Center site, particularly Phases 2 and 3, would ultimately be based on economic and market conditions.

Construction would generally occur five days per week (Monday through Friday) for up to 11 hours per day. The sixth and seventh days of the week (Saturday and Sunday) would be used if and as necessary to maintain the CNU Medical Center's construction schedule. CNU may request the ability to conduct construction activities outside of the daytime construction hour limits of 10:00 p.m. and 7:00 a.m. established under Section 8.68.200 of the Sacramento City Code.

TABLE S-4
PHASE 1 CONSTRUCTION PRELIMINARY SCHEDULE

Construction Activity	Duration	Start	Completion
Hospital Building and Central Plant			
Site Preparation	7 months	March 2022	October 2022
Demolition	3 months	April 2022	July 2022
Foundation and Concrete	8 months	April 2022	December 2022
Structural Framing	10 months	December 2022	September 2023
Exterior Enclosure	9 months	March 2023	December 2023
Interior Construction	16 months	June 2023	October 2024*
University Building 1 and Pharmaceutical Building			
Site Preparation	2 months	September 2023	October 2023
Foundation and Concrete	2 months	October 2023	December 2023
Structural Framing	3 months	December 2023	March 2024
Exterior Enclosure	4 months	March 2024	July 2024
Interior Construction	9 months	July 2024	March 2025**

NOTES:
* With a six-month contingency, interior construction of the hospital building could extend until April 2025.
** With a three-month contingency, interior construction of University Building 1 and the Pharmaceutical Building could extend until November 2025.

SOURCE: Data provided by Fong & Chan Architects in 2021.

Construction Activities

This section summarizes the general types of construction activities, workforce, and equipment anticipated for building construction.

Construction Staging

During construction, equipment and materials would be temporarily staged on-site, or at a nearby staging lot in undeveloped areas of the project area. All staging areas would be fenced to prevent unlawful entry and protect public safety. Staging areas located on the site of the proposed CNU Medical Center would also be located to avoid interfering with traffic circulation associated with existing uses in operation on or adjacent to the CNU Medical Center site during construction.

Excavation and Grading

An existing mound at the northeast corner of the site would be built up with the import of approximately 160,000 cubic yards of fill to raise the building surfaces to elevation 31–38 feet north of the entry road, then graded to slope downward to the west and south of the site. Any excess soil from grading activities on the CNU Medical Center site would be temporarily stockpiled in on-site staging areas during construction and moved to other areas of the project area for construction purposes.

Building Construction

All CNU Medical Center buildings and parking structures would be constructed following the same general procedure. First, the foundation would be poured; then the structural frame would be erected. This would be followed by construction of the exterior building enclosure, and then buildout of the interior would be completed.

The proposed structures would consist of a multitude of building materials, including cement, stucco, and stone claddings; glass panels; aluminum and steel beams, poles, and columns; and screens ranging in permeability and made of different materials. Pile driving is possible for the hospital structure.

During construction of the CNU Medical Center, deliveries of materials such as concrete, structural steel, electrical equipment, and insulation would be required. Deliveries also would be necessary for additional construction services equipment (e.g., portable toilets, temporary office trailers for construction contractors). Materials generally would be delivered by truck. Assumptions for the EIR impact analysis regarding the estimated number of delivery truck trips needed for construction to transport building materials to the CNU Medical Center site are provided in Appendix C. For purposes of the analysis in this EIR, it is assumed that building materials would be transported to the CNU Medical Center site in 20-cubic-yard delivery trucks and temporarily stockpiled in on-site staging areas.

Construction Workforce

Over the construction period for the CNU Medical Center, construction contractors would employ a skilled workforce, including cement finishers, ironworkers, pipe fitters, welders, carpenters, electricians, riggers, painters, operators, and laborers. The maximum number of workers assumed in the EIR to be employed during each phase of construction is summarized in Appendix C. The entire construction workforce is anticipated to come from the construction labor pool available in the region (e.g., Sacramento, Placer, El Dorado, Yolo, and San Joaquin Counties). The actual number of construction workers hired would be determined by the construction contractor selected for the CNU Medical Center project. Construction workers would park on the CNU Medical Center site, within the construction staging area.

Construction Equipment

The types of equipment anticipated to be used during the various activities during each construction phase are listed in Appendix C. The actual types of construction equipment to be used would be determined by the construction contractor(s) selected for the CNU Medical Center.

Project Approvals and Entitlements

City of Sacramento

The proposed Innovation Park PUD and the proposed CNU Medical Center project would require numerous approvals from the City of Sacramento, as described below.

Innovation Park PUD

Adoption of the proposed Innovation Park PUD is anticipated to require, but may not be limited to, the following City actions:

- Certification of the EIR to determine that the EIR was completed in compliance with the requirements of CEQA, that the decision-making body has reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the City of Sacramento.
- Adoption of a Mitigation Monitoring Plan (MMP), which specifies the methods for monitoring mitigation measures required to eliminate or reduce the project's significant effects on the environment.
- Adoption of Findings of Fact, and for any impacts determined to be significant and unavoidable, a Statement of Overriding Considerations.
- Approval of a Water Supply Assessment.
- Approval of one or more amendments to the 2035 General Plan.
- Approval of one or more rezones.
- Approval of one or more amendments to the Bikeways Master Plan.
- Approval of a Tentative Master Parcel Map.
- Approval of the Innovation Park PUD Guidelines.
- Approval of an Innovation Park PUD Schematic Plan.
- Approval of a Mixed-Income Housing Strategy.
- Approval of a Development Agreement.
- Approval of a Lot Line Adjustment.
- Approval of a demolition permit for the existing Sleep Train Arena building and associated infrastructure.

CNU Medical Center

In addition to the City of Sacramento approvals required for the Innovation Park PUD, the following City approvals would be required for the CNU Medical Center:

- Approval of Conditional Use Permit for a Hospital.
- Approval of Conditional Use Permit for a College.
- Approval of Conditional Use Permit for a Helistop.
- Approval of a Tree Removal Permit.
- Approval of a Site Plan and Design Review for Phase 1A of the CNU Medical Center (hospital and central utility plant) and associated parking.

- Approval of a Development Agreement.
- Approval of a variance from the City's Noise Control Ordinance to allow an extension of the hours of construction established by the ordinance for the Phase 1 facilities, including the hospital building and central utility plant structure.
- Approval of a grading permit to regulate land disturbances, landfill, soil storage, pollution, and erosion and sedimentation resulting from construction activities.

Other Local, Regional, State, or Federal Agencies

The proposed Innovation Park PUD and the proposed CNU Medical Center would require several additional approvals from other federal, state, regional, and/or local agencies, as described below.

Innovation Park PUD

Subsequent individual projects implemented under the proposed Innovation Park PUD would be anticipated to include, but may not be limited to, the following actions by entities other than the City:

- Approval of a construction activity stormwater permit, including a Storm Water Pollution Prevention Plan, from the Central Valley Regional Water Quality Control Board.
- Approval of a water quality certification under Section 401 of the Clean Water Act by the Central Valley Regional Water Quality Control Board.
- Approval of a stationary-source permit from the Sacramento Metropolitan Air Quality Management District (SMAQMD).

CNU Medical Center

The following approvals from other local and regional agencies would be required for the CNU Medical Center:

- SMUD approval of electrical conveyance facility improvements.
- SMAQMD approval of an Authority to Construct and Permit to Operate.
- Sacramento County approval for the CNU Medical Center to operate as a Level II Trauma Center.

The following approvals from state agencies would be required for the CNU Medical Center:

- Approval by the California Office of Statewide Health Planning and Development (OSHPD), Facilities Development Division, of a building permit and certificate of occupancy.
- Permitting by the California Department of Transportation, Division of Aeronautics, of the hospital helistop under Section 21666 of the Public Utilities Code, that would include a determination action by the Sacramento Area Council of Governments, which serves as the Airport Land Use Commission.
- Approval by the California Department of Public Health of a radioactive-material license, food service license, and licensing to operate the hospital and other healthcare facilities.

As noted above, the OSHPD Facilities Development Division would approve building permits associated with the proposed hospital and the medical office building. As part of the building permit process, OSHPD would require the designation of a licensed general contractor, approval of the inspector of record by the architect of record and OSHPD, City entitlement approval, and approval by the Sacramento Fire Department.

The following federal actions would be required for the CNU Medical Center:

- FAA actions under Federal Aviation Regulation Part 77 and Part 157 regarding objects affecting navigable airspace and establishment of a helistop.

Responsible Agencies

This EIR is intended to be used by responsible and trustee agencies (as defined by Sections 15381 and 15386 of the CEQA Guidelines) that may have review or discretionary authority over subsequent individual projects implemented under the proposed Innovation Park PUD. Agencies other than the lead agency that also may use this EIR in their review of subsequent individual projects implemented under the proposed Innovation Park PUD, or that may have responsibility for approval of certain project elements, may include but are not limited to the following:

- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- California Department of Transportation
- California Department of Toxic Substances Control
- California Department of Fish and Wildlife
- California Department of Public Health
- California Office of Statewide Health Planning and Development
- California Public Utilities Commission
- Central Valley Flood Protection Board
- Central Valley Regional Water Quality Control Board
- Pacific Gas and Electric Company
- Sacramento Housing and Redevelopment Authority
- Sacramento Metropolitan Air Quality Management District
- Sacramento Municipal Utility District
- Sacramento Regional County Sanitation District
- Sacramento Regional Transit District

Areas of Controversy

During the public comment period on the Notice of Preparation (NOP), February 22, 2019 through March 25, 2019, the City of Sacramento received a total of 293 written comment letters

regarding the proposed Innovation Park PUD (see Appendix A for the NOP and Appendix B for the NOP Comment Letters). Of these, 11 written comment letters were received from public agencies, four written comment letters were received from community organizations, and 278 written comment letters were received from the public. The comment letters included a number of comments pertaining to the project and the scope of the EIR. The comments requested that the EIR include analysis of issues such as:

- Evaluate construction and operational air quality impacts with both a Construction Air Quality Management Plan and an Air Quality Mitigation Plan to address operational emissions, consistent with SMAQMD guidance.
- Discuss how the proposed Innovation Park PUD relates to the Natomas Basin Habitat Conservation Plan.
- Provide recommended mitigation measures to address potential impacts to special-status species.
- Consult with California Native American tribes traditionally and culturally affiliated with the Innovation Park PUD area and vicinity in compliance with AB 52 and SB 18, conduct a historical records search, contact the Native American Heritage Commission for a Sacred Land Files (SLF) search, and perform an archaeological inventory survey.
- Develop mitigation measures for the inadvertent discovery of archaeological resources or human remains even if consultation, the records search, the SLF search, and the archaeology survey do not identify any cultural resources or tribal cultural resources.
- Include an analysis of the consistency of the proposed Innovation Park PUD with the City's Climate Action Plan.
- Acknowledge the impacts of the proposed Innovation Park PUD that are related to climate change.
- With respect to increased motor vehicle emissions, prepare a comprehensive traffic study to right-size the surrounding street network, and ensure that all future development in the Innovation Park PUD area support an increase in bicycle ridership.
- Evaluate the noise impact of large-scale construction proposed by the proposed Innovation Park PUD on the quiet, existing ambient environment of the area.
- Analyze the ability of the City to meet adequate police staffing ratios with the introduction of additional residents to the North Natomas Community Plan (NNCP) area.
- Address the disparity between fire protection resources and ongoing growth within the City of Sacramento.
- Analyze impacts to schools, including full school capacities, large class sizes, and overcrowded classroom facilities, as well as a desire for additional school facilities.
- Determine the feasibility of a school site within the Innovation Park PUD area.
- Discuss the need for additional parks and open space in Natomas, as well as a need for recreational facilities for children and youth.

- Calculate vehicle miles traveled (VMT), including VMT per capita.
- Evaluate queuing at nearby freeway ramp terminals.
- Ensure that the proposed circulation system in the Innovation Park PUD area prioritizes travel by walk, bike, and transit.
- Evaluate the future Snowy Egret Drive overpass across I-5, in the context of bicycle and pedestrian circulation.
- Provide safe routes to school for children crossing Arena Boulevard and Del Paso Road.
- Evaluate the interactions between existing high-speed arterials and future pedestrian and bike generation.
- Continue City consultation with utility providers to ensure that impacts related to the utility and infrastructure network are addressed.

Environmental Effects

The following discussion provides an overview of the key environmental effects of the proposed Innovation Park PUD. This overview does not constitute a complete summary of every effect of the proposed Innovation Park PUD described in the EIR; rather, it contains a description of those impacts that the City considers the principal environmental impacts of the proposed Innovation Park PUD. At the end of this chapter, **Table S-5**, Summary Table, includes a complete summary of all impacts and mitigation measures described in Chapter 4 of the EIR.

Aesthetics, Light and Glare

The Innovation Park PUD area is a 183.7-acre site that may be characterized primarily as a sprawling, flat landscape consisting primarily of paved parking lot, undeveloped areas including both vegetated and bare patches, the Sleep Train Arena and former Sacramento Kings practice facility, and the foundation and excavated area for a partially constructed baseball field and stadium, which has subsequently filled with water and formed a series of wetlands. Implementation of the proposed Innovation Park PUD would result in gradual physical changes within the Innovation Park PUD area, including the introduction of new residential, commercial, and retail buildings, and associated roadway, utilities, and landscaping infrastructure. The proposed Innovation Park PUD would result in an overall increase in the amount and intensity of physical development within the Innovation Park PUD area, which would result in changes to the existing visual character of the area.

The proposed CNU Medical Center would be located on approximately 35 acres in the southwestern portion of the project area, the majority of which consists of a paved parking lot and the private Sports Parkway. The Sleep Train Arena building is located in the northern portion of the proposed CNU Medical Center site. Construction and operation of the proposed CNU Medical Center would result in long-term, incremental physical changes to the site, including the introduction of a hospital and associated medical, office and administrative, teaching and research, and residential buildings, along with utilities, transportation, and landscaping infrastructure.

Although the proposed Innovation Park PUD allows for increased physical development within the Innovation Park PUD area, the development would be required to be consistent with applicable policies of the Sacramento 2035 General Plan, which includes policies designed to ensure that new development is visually compatible with and complementary to the site and its surroundings. Additionally, Policy NN.LU 1.1 of the NNCP requires that all development in the Innovation Park PUD area include a schematic plan and development guidelines for the proposed project. The schematic plan and development guidelines would be required to demonstrate that new development within the Innovation Park PUD area would be of high-quality design and would be visually compatible with and complementary to the site and its surroundings. In addition, as described in PUD Chapter 4, *Community Character and Design*, the overall vision and elements of Innovation Park are informed by the hierarchy of City of Sacramento planning documents, including the General Plan, the Citywide Design Guidelines, and the NNCP. Proposed PUD Policy 4.2.1, Adherence to City Policies, identifies that the City has several policies in place to guide urban development, including land use and design, and the PUD seeks to implement relevant City policies guiding urban development unless noted otherwise.

Pursuant to Chapter 17.808 of the Sacramento City Code, all development within the City of Sacramento is subject to site plan and design review to ensure that development is consistent with applicable plans and design guidelines. Site plan and design review would ensure that development within the Innovation Park PUD area meets these requirements, and that it is of high quality and compatible with surrounding development, thus avoiding adverse impacts to visual character within the context of a built-up urban setting. For these reasons, the proposed project would not conflict with applicable zoning and other regulations governing scenic quality, and the impact of the proposed Innovation Park PUD on visual character and quality would be less than significant.

Implementation of the proposed CNU Medical Center would result in a substantial visual change on the project site compared to existing conditions. However, as stated above, development associated with the CNU Medical Center would be required to be consistent with applicable policies of the Sacramento 2035 General Plan, and would be subject to a site plan and design review to ensure that development is visually compatible with and complementary to its site and surroundings, as well as consistent with applicable plans and design guidelines and compatible with its surrounding development. As such, the impact of the proposed CNU Medical Center on visual character and quality would be less than significant.

Sacramento 2035 General Plan policies also require that projects minimize obtrusive light by limiting misdirected, excessive, or unnecessary outdoor lighting, and that light be directed downward to reduce spill-over and vertical glare. The proposed Innovation Park PUD include guidelines that likewise seek to avoid light pollution, glare, and trespass, in addition to achieving high-quality, energy efficient lighting for all development in the Innovation Park PUD area. These guidelines are applicable to all development within the Innovation Park PUD area, and include additional guidance lighting along roadways and walkways, building exteriors, parking areas, landscaping, signage and graphics, and other elements of the public realm. Compliance with 2035 General Plan policies and the guidelines in proposed Innovation Park PUD, in addition to submission and approval of a conceptual signage and lighting design plan prior to development

within the Innovation Park PUD area, would therefore ensure that the proposed Innovation Park PUD would not create a new source of substantial light.

Development associated with the CNU Medical Center would likewise be subject to Sacramento 2035 General Plan policies that require projects to minimize misdirected, excessive, or unnecessary lighting. This development would include a variety of illuminated signage and lighting types, including: street lighting, sidewalk lighting, parking area lighting, building perimeter lighting, emergency lighting, outdoor security lighting, landscape lighting, and interior lighting that would be visible from outside the buildings. The proposed hospital building would create a new nighttime light source from interior lighting, and would include both a proposed rooftop helistop as well as a tower that might remain illuminated 24 hours per day and that would be topped with red aircraft warning lights. Compliance with 2035 General Plan policies and the guidelines in proposed Innovation Park PUD, in addition to submission and approval of a conceptual signage and lighting design plan prior to development associated with the CNU Medical Center, would therefore ensure that the Center would not create a new source of substantial light. With mitigation requiring each individual development project proposed within the Innovation Park PUD area, including development associated with the CNU Medical Center, to submit a conceptual signage and lighting design plan, impacts with respect to lighting and glare would be reduced to a less-than-significant level.

Air Quality

The *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (*2013 SIP Revisions*), which addresses attainment of the federal 8-hour ozone standard, and the *2014 Triennial Report and Plan Revision*, are the current air quality plans that are applicable to the proposed project. To determine compliance with the applicable air quality plans, SMAQMD recommends comparing the project to the Sacramento Area Council of Governments (SACOG) growth projections included in the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS),[1] a comparison of the project's projected VMT and population growth rate. The project area is currently designated for development as Urban Center High in the City of Sacramento's 2035 General Plan. SACOG projections for population growth and increase in VMT, which are used in air quality planning for the region, currently assume development under an Urban Center High designation. However, the proposed project would re-designate the project area to Urban Center Low, which would reduce the intensity of development associated with the area and would result in population and VMT growth assumptions lower than those expressed in the 2035 General Plan and the regional air quality plan. The proposed project would therefore not exceed the growth projections provided in the 2035 General Plan, those provided in the 2020 MTS/SCS, or those provided by SACOG. For this reason, implementation of the proposed project would not conflict with or obstruct implementation of the applicable air quality plan, and this impact would be less than significant.

Project-related air quality impacts for the proposed Project would fall into two categories: short-term impacts due to construction, and long-term impacts due to project operation. During

[1] Sacramento Area Council of Governments. 2019. *Metropolitan Transportation Plan/Sustainable Communities Strategy*. Adopted November 18, 2019.

demolition and subsequent construction of development allowed under the Innovation Park PUD, including the CNU Medical Center, criteria air pollutants would be generated primarily from the combustion of fuel in construction equipment and vehicle trips associated with worker commutes, material delivery, and hauling as well as potential implosion of the Sleep Train Arena, should that method be used. Local particulate concentrations would also be affected, due to fugitive dust generated from ground disturbance activities, implosion (if used) and from vehicle travel on unpaved surfaces. Following full development of the Innovation Park PUD area, operational emissions would primarily result from motor vehicle trips generated by the land uses allowed under the Innovation Park PUD, and from onsite sources such as natural gas combustion for space and water heating and other area sources such as landscaping and use of consumer products.

Construction-related emissions were estimated using the California Emissions Estimator Model (CalEEMod version 2016.3.2). As no project-specific information is available for development allowed under the proposed Innovation Park PUD besides the CNU medical center, reasonable construction assumptions and CalEEMod defaults were used to estimate construction phasing and equipment needs. However, CalEEMod does not include built-in defaults appropriate for projects larger than 35 acres; therefore, future development under the Innovation Park PUD was modeled as four smaller projects (phases), with 25 percent of the total development constructed under each project phase. The maximum daily and annual construction-related emission estimates of criteria air pollutants are then compared to the applicable regional significance thresholds of the SMAQMD.

Construction emissions were estimated for the proposed Innovation Park PUD using the methods delineated in the SMAQMD's *Guide to Air Quality Assessment in Sacramento County*. Maximum daily construction emissions of oxides of nitrogen (NO_X) would exceed the SMAQMD significance threshold, as would emissions of particulate matter 10 microns or less and 2.5 microns or less in diameter (PM_{10} and $PM_{2.5}$) when compared to a zero increase threshold prior to application of the SMAQMD recommended control measures. However, required mitigation measures for construction activities that would occur under the proposed Innovation Park PUD include the implementation of best management practices (BMPs), idling restrictions, engine maintenance requirements, low-emissions engines, enhanced fugitive dust control practices, and off-site mitigation. These mitigation measures would reduce short-term construction impacts resulting from maximum daily NO_X, PM_{10}, and $PM_{2.5}$ emissions. However, because impacts related to the potential implosion cannot be accurately predicted, this impact could be significant and unavoidable.

Implosion is being considered as an alternative to conventional demolition of the existing Sleep Train Arena. While implosion reduces the duration and concomitant emissions impacts associated with demolition activities and the air pollutant emissions generated by the explosions are minimal, the collapse of the structure following detonation creates an immediate, intense, and short-lived dust plume. This fugitive dust suspended upon collapse of the structure could result in increases of PM_{10} concentrations and increase exposure to sensitive receptors in the surrounding area, particularly downwind of the Project area. Any lead or asbestos contained within the structure could also potentially be suspended in the air following implosion, leading to health risk impacts. Mitigation requires the preparation of a Construction Air Quality Management Plan that details control measures that would reduce emissions during implosion. However, because the

volume of emissions generated by implosion and the effectiveness of mitigation measures cannot be accurately predicted, this impact could be significant and unavoidable.

Operation of development allowed under the proposed Innovation Park PUD would increase emissions of ozone precursors (reactive organic gases [ROG] and NO_X), PM_{10}, and $PM_{2.5}$ from vehicle trips and area sources (e.g., landscape maintenance and consumer products such as cleaning products). These operational emissions were estimated for build-out year 2036 using CalEEMod based on the proposed land uses, trip generation rates, and VMT developed for the proposed Innovation Park PUD. Single-family residential uses represented residential development analyzed in the EIR, and proposed commercial uses represented a mixture of commercial and retail spaces. Default trip generation rates and trip lengths in CalEEMod were adjusted to reflect project-specific traffic data. Operational emissions estimations were then compared to the appropriate SMAQMD significance thresholds for operation. Emissions from development allowed under the proposed Innovation Park PUD would exceed SMAQMD's significance thresholds.

SMAQMD's guidance recommends that project applicants prepare an Air Quality Mitigation Plan (AQMP) for all projects that exceed SMAQMD's operational significance thresholds. As the operational emissions of NO_X, ROG, and PM_{10} from development proposed under the proposed Project are greater than the applicable SMAQMD significance thresholds identified above, an AQMP has been prepared for the proposed Project. The AQMP calculates a reduction target based on the project's consistency with the current State Implementation Plan (SIP). For projects included in the current SIP, the SMAQMD recommends a 15 percent reduction of NO_X and ROG mobile-source emissions. For projects not considered in the SIP, the SMAQMD recommends a 35 percent reduction NO_X and ROG mobile-source emissions. As discussed above, the proposed Project would be consistent with the SIP; therefore, a 15 percent reduction is applied. The AQMP prepared for the proposed Project would exceed the 15 percent emission reduction/mitigation guideline for ROG and NO_X established by the SMAQMD. Thus, the operational impact from development allowed under the Innovation Park PUD, including the CNU Medical Center, would be less than significant.

Existing receptors and new receptors introduced to the Project area during earlier stages of development would be exposed to diesel particulate matter (DPM) during construction through the operation of internal combustion engines in construction equipment. Exposure to toxic air contaminants (TACs) like DPM during construction would result in health risks at residential receptors located less than 100 feet south of the Project area in excess of the SMAQMD significance thresholds, if unmitigated. In addition, the Innovation Park PUD is proposed to be constructed over a 16-year period; any residential uses introduced in the early phases of development would be exposed to DPM emissions from construction of later phases of development. The proposed project would include only very limited operational activities related to the emission of TACs; these activities either would not result in the emission of TACs or would result in minor emissions for emergency operations only. These operational activities would therefore represent negligible associated health risks to existing sensitive receptors in the vicinity of the project area. With mitigation requiring construction contractors to use low-emission construction equipment and restrict operating hours and requiring that new residential

units within the project area be installed with air filters or conduct additional analysis that TAC exposure from later phases of development with the project area would have a less-than-significant impact on residents, the health risk to existing and future residents would be reduced to below the established threshold, and this impact would be reduced to a less-then-significant level.

Biological Resources

The region in which the project area is situated has historically supported extensive marshes, riparian woodland intermixed with oak woodland, vernal pool complexes, and native grasslands. However, intensive agricultural and urban development has resulted in substantial changes and conversions of these habitats. As a result, the remaining native vegetative communities exist as isolated remnant patches within urban and agricultural landscapes. Annual grassland, valley foothill riparian, freshwater emergent wetland, lacustrine, disturbed/ruderal, and urban habitats are present within the project area. Native plant communities are limited within the project area; however, the non-native annual grassland that constitutes the area's dominant vegetated habitat type represents important foraging habitat for birds, and may also present potential habitat for breeding, resting, and cover for various reptile, mammal, and bird species.

Although much of the annual grassland within the project area consists mainly of weedy species and is disconnected from other Swainson's hawk foraging areas, that grassland could potentially be utilized by Swainson's hawk as foraging habitat, particularly if Swainson's hawks nest in the adjacent riparian habitat associated with the pond or in large trees within the urban habitat. Therefore, development of the proposed project would result in the loss of 41.83 acres of potential Swainson's hawk foraging habitat. However, this impact would be mitigated to a less-than-significant level through the preservation of off-site habitat or by purchasing mitigation credits.

The majority of the project area is highly urbanized in character and provides limited and only marginally suitable nesting habitat for special-status bird species. However, portions of the project area may support nesting birds, including various special-status species. Natural and semi-natural habitats occurring in the northern portion of the project area include riparian woodland, emergent wetlands, and lacustrine habitat, and are known to support suitable nesting and foraging habitat for a range of bird species. Annual grassland in the northern portion of the project area currently provides suitable nesting habitat for burrowing owl. Removal of mature trees and vegetation associated with construction of new development may result in the loss of potential nest sites, while human disturbances and noise from construction could potentially cause nest abandonment and death of young or loss of reproductive success at active nests located near project activities. However, impacts to nesting birds will be mitigated to a less-than-significant level through the performance of preconstruction surveys and the observance of no-disturbance zones around nest sites.

Multiple special-status bat species, including pallid bat, western red bat, and hoary bat potentially present within the project area. Habitat for these bats, which represent both foliage-roosting (hoary bat) and cavity-roosting (pallid bat and western red bat) species is present in both the riparian woodland within the project area, as well as in the foundation of the partially constructed baseball field and stadium and various buildings and infrastructure within the project area. There is also potential for maternity roosting regionally occurring bat species within the project area.

Construction of development allowed under the proposed project could result in disturbance or removal of a maternity roost site for special-status or common bat species. However, impacts to maternity roosting bats would be mitigated to a less-than-significant level through the performance of preconstruction surveys, and if present, avoidance and/or the implementation of exclusion measures.

Special-status plant species within the project area include stinkbells and Sanford's arrowhead. While no impacts to these species are anticipated from operation of development allowed under the Innovation Park PUD, construction activities proposed within habitat suitable for stinkbells and Sanford's arrowhead could result in the removal or construct-related disturbance of these species. However, impacts to special-status plant species will be reduced to a less-than-significant level through the performance of preconstruction surveys, and if present, either through avoidance and/or the implementation of a transplantation and monitoring plan.

Although no jurisdictional wetlands or other waters have been formally delineated within the project area, state and/or federally protected aquatic resources could potentially occur within the project area and these resources are assumed to be jurisdictional under the Clean Water Act and state regulations. Over all, development allowed under the proposed Innovation Park PUD would result in the loss of up to 6.38 areas of potentially state and federal jurisdictional wetlands and other waters through grading and excavations for roadways, pavement, and other improvements for development, and through dewatering of the pond associated with the partially completed baseball field and stadium. However, impacts to state or federally protected wetlands would be reduced to a less-than-significant level through the acquisition of applicable wetland permits, which would require that the project demonstrate no net loss of wetlands or other state or federally protected waters through compensation for impacted wetlands at no less than a 1:1 ratio.

Three vegetation alliances of special concern to the California Department of Fish and Wildlife (CDFW) may be found within the project area. These vegetation alliances and other riparian vegetation would be directly impacted through the direct removal of native riparian vegetation and habitat that would be required to construct development allowed under the proposed Innovation Park PUD. However, impacts to vegetation alliances and other riparian vegetation would be reduced to a less-that-significant level by requiring that the project compensate for the removal of riparian woodland habitat at a minimum ratio of 3:1. Compensation would take the form of off-site preservation and creation of riparian habitat through the purchase of credits at a mitigation bank and/or the acquisition of mitigation land.

A survey conducted in April 2019 identified a large rookery of nesting black-crowned heron and cattle egret nests within the narrow riparian woodland corridor of the project area. This rookery is a considered native wildlife nursery site, and construction of development allowed under the proposed Innovation Park PUD would result in the loss of this resource. Five rookeries containing similar habitat as is present within the project area have been identified within 6 miles of the project site by the California Natural Diversity Database (CNDDB). No long-term impacts to the black-crowned heron and cattle egret colony identified in the project area due to the removal of the riparian woodland/emergent wetland/riparian habitat complex are expected, as it is anticipated that the birds will relocate to the other suitable rookeries identified by the

CNDDB. However, development allowed under the proposed Innovation Park PUD could impact the nesting colony if trees are anticipated for removal during the nesting season. Impacts to the nesting colony would be reduced to a less-that-significant level by requiring that any tree removal activities required for project construction be conducted outside of the nesting season. In addition, to ensure that there would be no significant impact to the heron and egret colony through removal of the riparian woodland, as discussed above, development allowed under the proposed Innovation Park PUD would be required to compensate at a minimum ratio of 3:1 for removal of riparian woodland habitat.

Implementation of the proposed Innovation Park PUD, including development of the CNU Medical Center, could result in impacts to locally protected trees. The loss of protected trees, including oak trees (*Quercus* species), could conflict with the City tree ordinance. However, impacts to locally protected trees would be reduced to a less-than-significant level through the use of arborist surveys, which has already occurred at the CNU Medical Center site, as well as the submittal of a tree removal permit application for the removal of protected trees and compliance with all conditions of any issued permit.

Development within the Natomas Basin is subject to the Natomas Basin Habitat Conservation Plan (NBHCP). The NBHCP establishes a multi-species conservation program to minimize and mitigate the expected loss of habitat values and incidental take of covered species that could result from urban development, operation and maintenance of irrigation and drainage systems, and certain activities associated with The Natomas Basin Conservancy (TNBC) management of its system of reserves established under the NBHCP. Development within the covered areas of the NBHCP is subject to HCP fees and compliance with the requirements of the NBHCP. The project area is included in the list of existing development that is exempt from compliance with the NBHCP. Therefore, development within the project area is exempt from HCP fees and compliance with the NBHCP. In addition, for specific mitigation measures that require the purchase of credits at a mitigation bank and/or acquisition of mitigation land, the location and ratio of the mitigation shall be subject to the approval of CDFW, U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), and the City's NBHCP Designee. This is due to the limited availability of mitigation lands within the Natomas Basin, and will ensure that any mitigation proposed to mitigate impacts to biological resources will not reduce the availability of needed mitigation lands for development that is subject to the NBHCP.

Cultural Resources

Cultural resources were analyzed based on archival research of previously recorded cultural resources and cultural resource studies for the project area and its vicinity, in conjunction with field survey findings. A record search conducted at the North Central Information Center (NCIC) of the California Historical Resources Inventory System (CHRIS) at California State University, Sacramento yielded results to indicate that there are no previously recorded cultural resources within the project area. However, the search indicated that there are four cultural resources located outside but within 0.5 mile of the project area. Two of these resources are isolated indigenous artifacts found at two separate locations along the Natomas East Drainage Canal, while the other two cultural resources are a historic-era road and a buried segment of concrete

drainpipe, located north and northwest of the project area, respectively. The field survey found no cultural materials or evidence of archaeological deposits near the arena or parking lot, and no natural soil surfaces were visible within the project area. Based on these results, the potential to find significant intact archaeological resources is relatively low within most portions of the project area due to prior development and attempted development.

There is no evidence of historical resources or archaeological resources in the project area, and the overall archaeological sensitivity for the project area is considered low. However, certain portions of the project area have slightly heightened potential for archaeological deposits, given the soil types by which they are underlain. For these reasons, mitigation measures, where they are identified, are presented in a tiered approach, and are designed to avoid or limit potential impacts to cultural resources. These measures include: the provision of preconstruction cultural resources and tribal cultural resources sensitivity and awareness training conducted by qualified personnel; the development of and adherence to accidental discovery protocols in the event that unanticipated cultural resources and/or human remains are encountered during potential construction activities; and compliance with Federal and State regulations and guidelines regarding the treatment of cultural resources. While there is no indication that the project area contains cultural resources, tribal cultural resources, or human remains, the possibility of discovery of these resources cannot be entirely discounted. However, with the implementation of mitigation outlining steps to take upon the discovery of previously undocumented archaeological resources, tribal cultural resources, and/or human remains, potential impacts to inadvertently discovered archaeological resources, tribal cultural resources, and/or human remains would be reduced to a less-than-significant level.

Energy

The construction of development allowed under the proposed project is assumed to require fuels for equipment and vehicles, as well as the supply, treatment, and transportation of water for dust suppression and management, although electricity consumption associated with construction water usage is not included in the energy estimates. Construction of development allowed under the proposed project would occur gradually during various construction phases of the project over a period of 16 years. Construction associated with the CNU Medical Center site would occur incrementally over a period of 10 years. The level of construction-associated energy usage at any particular time would fluctuate depending on the type of development proposed and the associated ongoing construction activities, with higher energy use occurring during the initial phases of construction. The annual average use of diesel and gasoline fuels estimated for off-road equipment and on-road vehicles related to the construction of development associated with both the Innovation Park PUD area broadly and the CNU Medical Center site specifically would not be considered substantial relative to the total sales of transportation fuels in Sacramento County.

The project area was planned for urban development in the North Natomas Community Plan of the Sacramento 2035 General Plan; development of land uses allowed under the proposed Innovation Park PUD would therefore generate demand for electricity and natural gas consistent with the assumptions made in the Sacramento 2035 General Plan. Natural gas and electricity would be the primary energy sources to operation of the buildings developed under the proposed

project, including the CNU Medical Center. The project area is supplied electricity and natural gas by SMUD and PG&E, respectively, and both of these companies currently have established contracts and commitments to ensure there is adequate capacity to meet current and future energy loads for the area. Based on a comparison to the statewide and Sacramento County annual energy demands and to the projected demand growth rate, the project-related increase in electricity consumption for the project is not expected to adversely affect local and regional energy supplies, or to require additional generation capacity beyond the statewide planned increase to accommodate projected energy demand growth. Similarly, when compared to countywide consumption, the increase in natural gas consumption under the proposed project is not expected to cause adverse effects on local and regional energy supplies or to require additional transmission capacity beyond the statewide planned increase in consumption. Additionally, the New Building Electrification Ordinance adopted by the Sacramento City Council in June 2021, requires that buildings three stories or less in height for which building permit applications are filed on or after January 1, 2023 and buildings four stories or more in height for which building permit applications are filed on or after January 1, 2026 be all electric, be developed with no natural gas infrastructure.

Development allowed under the proposed Innovation Park PUD, including development associated with the proposed CNU Medical Center, would comply with existing energy standards and plans, including state and local requirements designed to minimize construction vehicle fuel use, maximize energy efficiency in buildings, and encourage the use of renewable energy. All project development would be built to the 2019 or later Title 24 standards, including the Building Efficiency Code and CALGreen Code, and would have to meet the zero net energy use in all new homes beyond 2020 and in commercial buildings by 2030, as established in the California Energy Efficiency Strategic Plan. As such, development allowed under the proposed project, including the CNU Medical Center, would be highly efficient in energy use for both residential and commercial structures. Construction and operation of the proposed project would therefore result in less-than-significant impacts related to the energy use associated with the proposed project. This analysis also conservatively excludes further energy use reductions beyond the current 2019 energy standards that can be anticipated from future revisions to California's Title 24 standards.

Global Climate Change

Project-related greenhouse gas (GHG) emissions are assessed as short-term emissions due to construction and as long-term, ongoing emissions due to operation of development allowed under the proposed project. Estimates for these GHG emissions were created using the CalEEMod, version 2020.4.0.

Total construction emissions that would be generated by the proposed CNU Medical Center are estimated to be 13,191 metric tons CO_2e during its 10-year construction period, and the remaining portions of the Innovation Park PUD would generate an estimated 20,602 metric tons CO_2e during a 16-year construction period. The combined construction emissions from the Innovation Park PUD, including the CNU Medical Center, would be approximately 33,794 metric tons CO_2e. Construction emission impacts would be mitigated to a less-than-significant level through the

implementation of BMPs, purchase of carbon offset credits, compliance with a qualified climate action plan, or a combination thereof.

Operation of development that would be allowed under the proposed project would result in the long-term generation of GHG emissions from a variety of potential emissions sources on site (e.g., natural gas combustion for space and water heating, indirect emissions from electricity consumption, landscape maintenance) and mobile on-road and helicopter sources. SMAQMD has identified measures to target a project's GHG emissions sources that are not adequately addressed by state measures, requiring local supportive measures that should be applied to a project to demonstrate consistency with CARB's 2017 Climate Change Scoping Plan. Projects are evaluated for their consistency with these measures, known as Tier 1 and Tier 2 BMPs. Pacific Gas and Electric Company (PG&E) would provide natural gas service to the Innovation Park PUD area and the CNU Medical Center site, respectively. Therefore, SMAQMD BMP 1 (projects shall be designed and constructed without natural gas infrastructure) would not be implemented by the proposed project. In addition, Section 2.5.4 states that by the completion of Phase 3, the CNU Medical Center would include 2,593 parking spaces, 519 of which would be EV capable (20 percent) and 156 of which would be EV installed (6 percent). Per the requirement of SMAQMD BMP 2, projects shall meet the current CALGreen Tier 2 standards, except all EV capable spaces (i.e., capable of supporting future EVSE) shall instead be EV ready (i.e., EVSE installed). Since CALGreen Tier 2 requires that 20 percent of residential parking spaces and 10 percent of non-residential parking spaces be EV capable, SMAQMD BMP 2 would not be fully implemented by the project. Individual projects, including the CNU Medical Center, would be subject to mitigation measures requiring them to implement Tier 1 BMPs, secure carbon offsets, and/or demonstrate compliance with a City of Sacramento CAP. Implementation of these would reduce operational GHG impacts to a less-than-significant level.

Because the proposed project operational emissions would exceed the screening significance threshold of 1,100 metric tons/year, SMAQMD recommends implementation of BMP 3, which is a commitment to reduce applicable project residential VMT by 15 percent relative to Sacramento County targets, and in areas with above average existing VMT, it requires a commitment to provide electrical capacity for future 100 percent electric vehicles. Since the residential VMT per capita (population) that would be generated by the Innovation Park PUD would be well under 85 percent of the regional average for residential uses, the operational impact would be less than significant.

The proposed CNU Medical Center Central Plant would include the operation of several stationary sources, including natural gas-fired boiler(s) and four diesel-powered emergency generators. The boiler(s) would operate 24 hours per day on a routine basis, while the emergency generators would each operate for up to 50 hours per year for maintenance and testing purposes, except for period of emergency use. As described in Table 4.6-4, annual total emissions associated with routine operations of the Central Plant boiler(s) and emergency generators would be approximately 6,692 metric tons CO_2e per year, which would not exceed the SMAQMD stationary source significance threshold of 10,000 metric tons CO_2e per year.

Hazards

The construction of development associated with the proposed Innovation Park PUD and the proposed CNU Medical Center would entail the use of equipment and materials that involve fuels, oils and lubricants, solvents and cleaners, cements and adhesives, paints and thinners, degreasers, cement and concrete, and asphalt mixtures. The routine use or an accidental spill of these hazardous materials could result in inadvertent releases, which could adversely affect construction workers, the public, and the environment. The vicinity of the project area has a long history of agricultural use, which likely involved the use of pesticides, herbicides, and fertilizers; certain long-lasting pesticides, such as dichlorodiphenyltrichloroethane (DDT) and chlordane, may still be present in the soil or groundwater at concentrations above regulatory action levels. To ensure that a significant impact would not occur, a Phase 1 Environmental Site Assessment would be undertaken for the project before the onset of construction.

Construction contractors for the proposed project would be required to comply with regulations to ensure the safe transportation, use, storage, and disposal of hazardous materials, and to reduce the potential for a release of such materials related to construction. Contractors would also be required to prepare and implement hazardous materials business plans and to adhere to measures under the California Fire Code that address the safe storage and handling of hazardous materials. In compliance with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit, contractors would also be required to prepare and implement a storm water pollution prevention plan for construction activities associated with development under the proposed Innovation Park PUD and CNU Medical Center. Given these considerations, and with the development and implementation of construction health and safety plans and site management plans, potential impacts to the public or the environment through the routine transport, use, disposal, or accidental release of hazardous materials would be reduced to a less-than-significant level.

Three schools are located within one-quarter mile of the project area, and routes to and from the project area could pass near one or more of these schools, potentially exposing schoolchildren and staff to hazardous materials in the event of accidental release or spill of hazardous materials during construction-related transportation. Construction of development under the proposed Innovation Park PUD and CNU Medical Center would comply with regulations regarding the transportation, use, storage, and disposal of hazardous materials during construction activities. However, development and implementation of a construction traffic plan would manage the movement of project-related construction vehicles potentially transporting hazardous materials on roads near schools, and would reduce the potential impact of hazardous project-related emissions and materials within one-quarter mile of schools to a less-than-significant level.

Although the project area is located within Referral Area 2 of the Airport Influence Area for Sacramento International Airport (SMF) as delineated in the SMF Airport Land Use Compatibility Plan (ALUCP), the project area is located outside the Safety Zones delineated in the SMF ALUCP. As such, the project area is located outside of the airport-adjacent zones where land use restrictions are enacted to protect the public from potential aircraft accidents. The proposed project would be subject to the ALUCP's overflight notification policies, which would provide notice to prospective buyers of residential real estate within the project area as part of the

transfer of title, and the impact of the proposed Innovation Park PUD and CNU Medical Center related to airport-related hazards would be less than significant.

Construction of development associated with the proposed Innovation Park PUD and the CNU Medical Center site would occur off public roads and would not require any road closures or restrictions; however, construction-related traffic could potentially impair or interfere with emergency response or evacuation operations. Mitigation requires implementation of a construction traffic control plan as a condition of permitting. This plan would include measures to ensure that traffic, including emergency vehicles, would be able to reach the residential and commercial properties surrounding the project area. Upon implementation, the proposed project area, including the CNU Medical Center site, would be subject to the Sacramento County Evacuation Plan, which describes previously agreed-upon strategies for responding to emergencies, including the safe and effective evacuation of people. The plan would cover the project area, and would incorporate the additional population introduced in the project area by the Innovation Park PUD into future plan updates. As such, the potential impact of the project to impair or interfere with an adopted emergency response or evacuation plan would be reduced to a less-than-significant level.

Noise and Vibration

Construction noise impacts are evaluated relative to the increase in noise levels that could result from the operation of construction equipment compared to existing noise level conditions. Noise levels related to construction would fluctuate depending on the specific type, number, and duration of use of various pieces of construction equipment. Additionally, the effects of construction noise would depend upon the phase of construction, level of construction activity on a particular day, the related noise generated by that activity, the distance between construction activities and the nearest noise-sensitive land uses, the presence or absence of barriers between the noise and the receptor, and the existing noise levels at the receptor. Assuming equipment required for impact activities (e.g., pile driving) is operated at the boundary of the project area, sensitive receptors located as close as 100 feet from the western and southern boundaries of the project area would experience intermittent noise levels well above existing ambient noise levels. Sensitive receptors introduced to the project area during earlier phases of implementation of the Innovation Park PUD would also be subject to increased noise levels from the construction activities associated with later phases of development. Noise generated through associated demolition and construction activities would therefore have a short-term significant impact on nearby sensitive receptors. However, impacts associated with construction noise will be reduced to a less-than-significant level with implementation of a Construction Noise Reduction Plan, which would establish construction noise reduction measures during demolition, grading, and construction activities.

Implosion of the existing Sleep Train Arena is also being considered as an option to conventional demolition, and would generate noise due to detonation of explosives as well as the subsequent collapsing of the structure. However, impacts associated with implosion will be reduced to a less-than-significant level, if implosion is undertaken, through the preparation of a detailed, project-specific feasibility study assessing the impacts of imploding the structure; the monitoring of

ground vibration levels on the day of the implosion by an independent third-party engineering consultant specializing in seismic monitoring; the establishment of an adequate exclusion zone around the arena prior to and following the implosion for as long as warranted by safety requirements; advance notice and reminders sent by mail to all land uses within the exclusion zone and posted as signs detailing pertinent information for the implosion event and subsequent street closures; and the provision of transportation and temporary relocation to sensitive receptors located within 0.25 mile of the arena.

Demolition and construction activities associated with the proposed project could generate temporary ground-borne vibration in the vicinity of the project site that exceeds standard vibration thresholds and could therefore interfere with normal activities or cause damage to adjacent structures. The vibration levels generated from these activities and the distance from within which these vibrations would be perceptible would differ depending on the soil conditions, construction methods, and equipment used. However, groundborne construction vibrations can be perceptible within 30 to 100 feet of a source, with the potential use of pile driving expected to generate the highest vibration levels. The receptors nearest to the project area, located 100 feet west and south of the site, would experience vibration levels of 78 velocity decibels (VdB) from heavy-duty construction equipment and levels of 86 VdB during pile driving activities. Although this level represents a worst-case analysis that assumes pile driving activities would take place at the boundary of the project area closest to sensitive receptors, it exceeds the vibration significance threshold of 80 VdB. This impact would be mitigated to a less-than-significant level through implementation of a Construction Vibration Management Plan containing site-specific attenuation measures or engineering alternatives to reduce construction impacts associated with extreme vibration-generating activities. These measures may include but are not limited to: utilizing “alternative” pile installation technology to reduce vibration, where feasible; installing cast-in-place concrete piles; vibrating piles into place, where feasible; and providing advance notice to property owners and occupants within 300 feet of where City-approved construction activities that generate extreme noise and vibration occur.

If implosion is the method selected to demolish the existing arena structure, the nearest receptors are located at least 1,000 feet away from the arena and the event would be designed to minimize the amount of vibration that would occur. However, the impact is conservatively considered a short-term significant risk, as vibration depends on project- and site-specific conditions. This impact would be mitigated to a less-than-significant level through implementation the measures discussed above to reduce noise during implosion.

The majority of the long-term noise that would result from implementation of the proposed project would occur primarily from traffic generation. An increase in local traffic volumes caused by development associated with the proposed project would result in high traffic noise levels along local roadways, and would exceed appropriate incremental exterior noise standards, as well as the thresholds for Urban Residential Infill and Mixed-Use Projects along the roadway segments forming the boundary of, and leading to, the project area. Future projects proposed under the Innovation Park PUD and the proposed student housing of CNU would be required to undergo future review on an individual basis as they are proposed. Should future traffic noise levels at noise-sensitive land uses along local roadway segments be significantly affected by

project traffic, mitigation will be implemented to the extent feasible. This mitigation includes the construction of noise barriers (e.g., walls and/or berms) to reduce traffic noise levels at noise-sensitive land uses found to be significantly impacted by traffic noise, as well as the installation of traffic-calming measures along impacted roadways to reduce future traffic speeds. However, while the implementation of these measures could reduce future traffic noise levels at existing and planned noise-sensitive land uses located near roadways impacted by project traffic, physical noise mitigation is not always a feasible option for traffic noise impacts. It is likely that these measures in most cases would be infeasible to implement, primarily for off-site receptors, due to factors associated with existing land use development such as driveway cutouts, which reduce the efficacy of noise barriers and would therefore not reduce future traffic noise levels to below the established significance threshold. Additionally, traffic calming measures could not be implemented along large or arterial streets or major intersections. Therefore, this impact would remain significant and unavoidable.

The commercial land uses proposed under the Innovation Park PUD, including commercial and retail buildings, could be located in proximity to proposed sensitive land uses. These sensitive receptors could be exposed to HVAC, loading dock, and garbage collection services that could exceed the City of Sacramento's nighttime noise standard, which could contribute to a substantial permanent increase in ambient noise levels in the area that could result in a significant impact. However, mitigation measures that require the shielding of HVAC units, guide the location of loading docks, and regulate the timing of delivery and/or collection services would reduce these impacts to a less-than-significant level. However, because no mitigation would reduce noise impacts from ambulances, these impacts would remain significant and unavoidable.

Helicopter noise caused by landings and takeoffs from the helipad proposed on the roof of CNU would also have the potential to impact nearby residents. The 89 dB SEL contour would extend beyond the project area and transect areas of residential uses. As such, some residential uses would experience an interior SEL of 65 dBA, surpassing the sleep disturbance threshold. This would be a significant and unavoidable impact.

Impacts from aircraft would be less-than-significant as no portion of the project area is located within the impact areas of Sacramento International Airport.

Public Services

Analysis of potential impacts to existing public services within the Innovation Park PUD area includes the effects of implementing the proposed Innovation Park PUD and CNU Medical Center on police protection and fire protection services, public schools, and parks and open space facilities.

Police Protection

Police protection services are provided to the City of Sacramento by the Sacramento Police Department (SPD), and to the Innovation Park PUD area specifically by the North Command of the SPD. The project area is served by the William J. Kinney Police Facility, located approximately 4.4 miles southeast of the project area. The introduction of new residents,

employees, and housing units that could result from development allowed under the proposed project would contribute to an increased demand for police protection services in order to meet the SPD's unofficial staffing goals. In accordance with the City of Sacramento 2035 General Plan Policy PHS 1.1.8, all new development within the City would be required to contribute fees for police facilities, which would be financed through the City's General Fund. In addition, the City of Sacramento identified several new police stations and associated facilities in the 2035 General Plan Master EIR to accommodate all sworn officers and civilian staff required to maintain adequate services levels under full buildout of the General Plan. For these reasons, sufficient police protection services would be provided to serve the increase in demand resulting from implementation of the proposed Innovation Park PUD and CNU Medical Center, and the impact to police protection services would be less than significant.

Fire Protection

Fire protection services are provided to the City of Sacramento by the Sacramento Fire Department (SFD). In addition to fire protection and suppression services, SFD also offers emergency medical and special operation services. The project area, situated within North Natomas, is served by multiple stations, with Station 43, located approximately 0.85 miles east of the project area, serving as the "first-in" responders for development within the project area. The introduction of new residents, employees, and housing units within the project area resulting from full implementation of the proposed Innovation Park PUD, including the proposed CNU Medical Center, could lead to an increase in the number of calls for fire protection and emergency medical services beyond the volume currently experienced by stations that serve the project area. The Sacramento 2035 General Plan Master EIR identified the relocation of three fire stations as subsequent projects to maintain adequate services levels under full buildout of the General Plan. Construction of several of these projects was initiated as of 2021.

Additionally, all development within the project area would be required to meet SFD standards to ensure adequate capacity for fire protection and suppression requirements, particularly those concerning water supply. All new development within the project area would also be required to contribute fees for the provision of fire protection services and facilities, in accordance with Policy 2.1.11 of the City of Sacramento 2035 General Plan. Finally, the development proposed by the Innovation Park PUD and the CNU Medical Center would be within the development that was accounted for in the 2035 General Plan Master EIR, which did not anticipate a need for additional facilities beyond those already identified as subsequent projects. Therefore, no additional facilitates are expected to be required to meet the fire protection needs that would result from implementation of the proposed Innovation Park PUD and CNU Medical Center, and impacts to fire protection services would be less than significant.

Public Schools

The project area falls entirely within the boundaries of the Natomas Unified School District (NUSD), which operates a total of 20 schools. The proposed project is anticipated to generate approximately 968 new students within the NUSD, potentially resulting in the generation of students that would exceed the capacities of the district's existing school facilities. However, in accordance with Senate Bill (SB) 50, all new development that would result from implementation

of the proposed Innovation Park PUD and proposed CNU Medical Center would be required to pay applicable school fees, which are considered full and adequate mitigation for impacts on public schools. Additionally, the North Natomas Community Plan (NNCP) requires that prior to the approval of any rezoning for any residential land use within the NNCP area, the applicant and the relevant school district(s) shall enter into an agreement to ensure that adequate school facilities to serve the residential units are provided when needed, and that a financing plan to assure the funding of those facilities is drafted when needed. Therefore, impacts to public schools resulting from implementation of the proposed Innovation Park PUD and CNU Medical Center would be less than significant.

Parks and Open Space

The City of Sacramento Department of Youth, Parks, and Community Enrichment (YPCE) is responsible for the management of 227 parks and recreational facilities within the City of Sacramento, consisting of more than 3,400 acres of developed neighborhood, community, and citywide/regional parkland and open space areas. Forty-six (46) of these parks are situated within the North Natomas community, with multiple parks located either partially or completely within 0.5 mile of the Innovation Park PUD area. The introduction of new residential and employee populations resulting from implementation of the proposed Innovation Park PUD and proposed CNU Medical Center would generate additional demand for parks and recreational facilities, as additional parkland would be required in order to meet the City of Sacramento's service targets to citywide and regional parks. These new populations could also contribute to the overuse of existing parks near the project site, potentially leading to the overcrowding and physical deterioration of existing park facilities and resulting in a potentially significant impact. However, this impact could be mitigated to a less-than-significant level by complying with the Quimby Act and Park Impact Fees (PIF) ordinances enacted by the City of Sacramento, to offset the need for additional parkland and to comply with the City's parkland standards.

Transportation

The analysis considers impacts of motorized vehicle traffic on roadway capacity and VMT, and potential impacts on transit, bicycle, and pedestrian mobility. An evaluation of construction impacts is also included. Quantitative transportation analyses have been conducted for four different scenarios: Existing (2021) Conditions, Existing (2021) plus Proposed Project Conditions, Cumulative (2040) Conditions, and Cumulative (2040) plus Proposed Project Conditions. The transportation study area was selected in consultation with City of Sacramento staff based on a review of the project location and the amount of traffic that could be added to transportation network components in the area.

Increased density affects the distance people travel and provides greater options for the mode of travel they choose. Buildout of the proposed Innovation Park PUD, including the CNU Medical Center, would add approximately 8,169 residents and 7,420 employees to the project area[2]. Both

[2] At the time of publication of this EIR, due to schedule constraints the traffic analysis presented in Section 4.10 does not reflect the most recent data for project population and employment estimates as presented in Chapter 3.0. An updated traffic analysis will be included in the FEIR. No impact conclusions or mitigation measures are expected to change as a result of this update.

residential VMT per capita and nonresidential VMT per employee generated by the project would be less than 85 percent of the SACOG regional averages for residential and nonresidential uses. Therefore, the VMT impact from implementation of the project would be less than significant.

Local-serving retail primarily serves preexisting needs (i.e., it does not generate new trips because it meets existing demand). The Governor's Office of Planning and Research's *Technical Advisory on Evaluating Transportation Impacts in CEQA* provides for a general threshold of 50,000 square feet per establishment as an indicator of whether a retail store can be considered local-serving. Based on the understanding that no single store within the estimated 342,400 square feet of retail uses anticipated to be developed pursuant to the Innovation Park PUD would exceed 50,000 square feet, it is presumed that the VMT-related impact of the proposed retail uses would be less than significant. If regional-serving retail is ultimately determined to be part of the project, those sites would need to be evaluated on their own merits as detailed project descriptions become available in the future.

Development of the proposed CNU Medical Center would be anticipated to attract new vehicle trips from within the project area and redistributed trips to other medical land uses in the region, potentially resulting in shorter trip lengths between existing healthcare facilities in the region when the hospital opens for service. Currently, the only hospitals in the city of Sacramento are three hospitals in the city's downtown core—Sutter Medical Center, Sacramento; Mercy General Hospital; and the University of California, Davis Medical Center—and two hospitals in the southern part of the city, Methodist Hospital of Sacramento and Kaiser Permanente South Sacramento Medical Center. Because there are no hospitals in Natomas and the northern part of the city, hospital trips originating from those areas would be shortened with the addition of the hospital located within the project area. Therefore, the VMT impact of the hospital land use would be less than significant.

The proposed medical university would have a negligible effect on regional VMT. The proposed medical school is a specialized school that would serve students who would attend the university for a specific purpose and would either live on campus or locate themselves closer to the school than they are currently located. In addition, with the medical university's association with the hospital located on Parcel D, many of the commute trips normally made by much of the staff would already be occurring for the hospital. For those staff members not associated with the hospital, such as many of the support staff, their average VMT was found to be less than the regional threshold as noted above. Thus, the impact on regional VMT from VMT related to students and staff of the proposed medical university would be less than significant.

There are existing and planned bicycle facilities in the vicinity of the project area. Although the proposed project would not result in the removal of any existing or planned pedestrian facility or bikeway/bike lane, the project may increase pedestrian and bicycle demand in the project area and nearby vicinity. The proposed project would include on-street bike lanes on all major and minor collector roadways in the project area. Internal bikeways in the project area would connect to on-street facilities on Del Paso Road, Arena Boulevard, East Commerce Way, and Truxel Road at the gateways of the project area. Internal pathways and crosswalks would provide pedestrian

circulation throughout the project area. For these reasons, impacts on bicycle and pedestrian facilities from implementation of the Innovation Park PUD would be less than significant.

The Innovation Park PUD would include on-street bike lanes on all major and minor collector roadways in the project area. Bicycle and pedestrian amenities would be provided throughout the CNU Medical Center campus. At buildout, and in every phase, bicycle parking would exceed the City's minimum requirements, with a total of 1,409 bicycle parking spots provided at buildout. Access to bike lanes and sidewalks along the surrounding backbone roadway streets would also be provided.

The proposed CNU Medical Center campus would include an extensive network of pedestrian paths that would connect uses in all campus development zones, and would provide connections to the pedestrian network of sidewalks in the larger Innovation Park PUD area. The proposed CNU Medical Center would also provide bicycle and pedestrian facilities on-site, and would provide connections to planned bicycle and pedestrian facilities in the Innovation Park PUD area, which would be designed and constructed to provide pedestrian and bicycle connectivity to surrounding areas. Therefore, the anticipated impact of the CNU Medical Center on pedestrian and bicycle facilities would be less than significant.

The proposed project would not adversely affect existing public transit operations. Transit service near the project area is limited and does not overlap with the development footprint of the Innovation Park PUD. The project's transit demand would be low because of the low expectation of access to transit, given the typically long walking distance to existing transit services in North Natomas. However, it can be anticipated that some project residents would utilize existing and future planned transit services where accessible. Future buildout of the SacRT Green Line light rail would be anticipated to include a stop near the northeast boundary of the Innovation Park PUD area, providing regional transit access to the project. As described in the Innovation Park PUD, Section 5.3, *Public Transit*, the PUD is foreseen to be a transit-ready urban environment through the inclusion of transit-supportive plan elements. Further, the roadway system within the Innovation Park PUD, including the CNU Medical Center would include adequate right-of-way to provide for the future development of transit facilities by transit service providers. However, because of the uncertain nature of future services provided by regional and local transit agencies, the potential exists that the proposed project would not provide adequate access to transit. For this reason, impacts of the proposed project on transit would be significant and mitigation to provide transit access would be implemented to reduce this impact to a less-than-significant level.

The proposed Innovation Park PUD, including the CNU Medical Center, would contribute vehicle traffic to freeway facilities near the project area. However, all on- and off-ramps would be able to contain project-generated queues, and implementation of the proposed project would not result in off-ramp or on-ramp queuing at freeway facilities that would exceed storage capacity. This impact would be less than significant.

Construction of development allowed under the Innovation Park PUD and as part of the CNU Medical Center may temporarily disrupt the transportation network near the project area. Roadway lanes, streets, sidewalks, and bikeways could be temporarily closed, and pedestrian and

bicycle access may be disrupted. Heavy vehicles, equipment, and trucks would access the project area and may need to be staged for construction. These activities could result in the degradation of roadway operating conditions. These temporary impacts would be potentially significant and the implementation of a construction traffic control plan would be required to reduce these impacts to a less-than-significant level.

The proposed project's residential land uses would produce 81,481 daily VMT. When combined with the number of people estimated to live in the project area (5,829 residents), the proposed project is estimated to produce 14.0 VMT per capita. Based on the SACOG regional threshold shown, 17.7 VMT per capita, the residential land uses would not be expected to exceed the threshold and VMT related to residents would not be cumulatively considerable. With respect to nonresidential land uses, the project would produce 148,790 daily VMT related to work trips. When combined with projected project employee trips, the proposed project is estimated to produce 15.8 VMT per employee. Based on the SACOG regional threshold of 18.1 VMT per employee, the nonresidential land uses would not be expected to exceed the threshold, and VMT related to employees would not be cumulatively considerable. Therefore, because regionwide VMT per capita is expected to decrease in the cumulative scenario, the impact would be less than significant.

Regarding pedestrian and bicycle facilities, with consideration of City policies and practices, the Innovation Park PUD, including the CNU Medical Center, and cumulative development would not be anticipated to adversely affect existing or planned bicycle facilities. The proposed project and cumulative development would provide for access to bicycle and pedestrian facilities by implementing City General Plan policies through the planning and entitlement process. Cumulative impacts related to bicycle and pedestrian facilities would be less than significant.

The proposed Innovation Park PUD, including the CNU Medical Center, and cumulative development would not adversely affect public transit operations. The PUD is foreseen to be a transit-ready urban environment through the inclusion of transit-supportive plan elements. However, the development of the Innovation Park PUD could facilitate increased demand for transit and the expansion of transit services to serve the transit demand created by the Innovation Park PUD. Further, the roadway system within the Innovation Park PUD would include adequate right-of-way to provide for the future development of transit facilities by transit service providers. Because of the size of the Innovation Park PUD area and its location within North Natomas (near other key development projects), it is anticipated that surrounding uses could also benefit from and utilize expanded transit services that may be attracted by buildout of the Innovation Park PUD, as well as the proposed SacRT Green Line light rail.

However, because of the uncertain nature of future services provided by regional and local transit agencies, the potential exists that the proposed project along with cumulative development would not provide adequate access to transit. Therefore, project and cumulative impacts on transit would be cumulatively significant, requiring the implementation of mitigation measures to reduce this impact to a less-than-significant level.

As described previously, all on- and off-ramps would be able to fully contain traffic queues and implementation of the proposed project would not result in off-ramp queuing at freeway facilities

that would exceed storage capacity. Adjustments to signal timing and dynamically timed ramp meters would limit queuing to the extent that queue lengths at all affected freeway facilities would not exceed the storage provided by those facilities, which would be a less-than-significant cumulative impact.

Construction of development allowed under the Innovation Park PUD, including the CNU Medical Center, and cumulative development may temporarily disrupt the transportation network near the project area. Roadway lanes, streets, sidewalks, and bikeways could be temporarily closed, and pedestrian and bicycle access may be disrupted. Heavy vehicles, equipment, and trucks would access the site and nearby cumulative development sites and may need to be staged for construction. These activities could result in degraded roadway operating conditions. Therefore, these temporary impacts would be cumulatively significant and a construction traffic control plan would be implemented to reduce this impact to a less-than-significant level.

Utilities

Analysis of impacts to utility resources includes existing utilities and services systems that serve the proposed Innovation Park PUD area, including water supply and conveyance, wastewater treatment and conveyance, stormwater conveyance, solid waste collection and disposal, and electricity and natural gas.

Water

Implementation of the proposed project would result in an increase in water demand as compared to existing conditions on the site. In accordance with City procedures, water demand for the proposed project was compared to water supplies available to the City of Sacramento, and a determination was made regarding sufficiency of supply for the proposed Innovation Park PUD using the City's Water Supply Assessment and Certification Form (WSA). The anticipated demand for implementation of the proposed Innovation Park PUD (excluding the CNU Medical Center) is approximately 371.3 acre-feet per year (AFY). This increase in water demand would represent an approximately 0.38-percent increase in the total water demand (100,483 AFY) of the City of Sacramento in 2020. This demand is less than the total available water supply for the City of Sacramento in 2020 (more than 346,000 AFY), based on the City's surface water diversion rights and groundwater pumping capacity. The anticipated demand for implementation of the CNU Medical Center is approximately 679.4 AFY, which would represent an approximately 0.68 percent increase in the total water demand (100,483 AFY) of the City of Sacramento in 2020. This demand is also less than the total available water supply for the City of Sacramento in 2020 (more than 346,000 AFY). The proposed Innovation Park PUD and the proposed CNU Medical Center would therefore not exceed available water supply in the City, and this impact would be less than significant.

A backbone water distribution system would be constructed within the project area to serve future development. Preliminary modeling suggests that the system would consist of 12-inch mains that would follow the street system throughout the project area; however, a detailed water study completed by the applicant would determine the exact size of the mains that would comprise the system. The environmental impacts that would result from construction of this backbone system

within the project area are analyzed in the other sections of this EIR. Where feasible, existing water infrastructure serving the Sleep Train Arena building would be connected to the new service loop of the water distribution system for the proposed project, but improvements to offsite water conveyance infrastructure would also be required. However, given the urbanized nature of the adjacent area, it is unlikely that construction of these improvements would result in significant environmental impacts, as the improvements would occur within an existing street or right-of-way that has been previously disturbed. For these reasons, impacts due to the installation of new water service mains for implementation of the proposed project would be less than significant, and no distinct or additional impacts associated with the installation of new water service mains beyond those projected for the broader Innovation Park PUD are anticipated for the proposed CNU Medical Center.

The Urban Water Management Plan (UWMP) proposes categories of development within the City's service area for water supply and considers water supply needed for future development as planned in the 2035 General Plan. The current land use designation for the project area is Urban Center High; the 2020 UWMP anticipated development at this site based on that designation. As the project proposes altering that designation to Urban Center Low, which allows for less development on the site than was accounted for under the current designation within the 2035 General Plan, the amount of development allowed under the Innovation Park PUD and proposed by the CNU Medical Center has been accounted for in the 2020 UWMP. The City of Sacramento has sufficient water production capacity to meet anticipated demands through the year 2045, under anticipated Hodge flow restrictions. However, the City is currently evaluating further expansion of the Sacramento River Water Treatment Plant (SRWTP) to increase its diversion and treatment capacity to 310 million gallons per day (mgd), and environmental review for this potential expansion is commencing in 2021. Assuming implementation of the proposed upgrades to the SRWTP, the City would have sufficient water rights to serve anticipated demands in all years, even under Hodge Flow conditions. Moreover, the City can increase its groundwater pumping during dry years or Hodge Flow conditions to increase local supplies and at times when surface water supplies are constrained in the Lower American River, even prior to upgrades at the SRWTP. The City's existing storm drain system would be sufficient to provide stormwater drainage throughout the City of Sacramento, including the project area. The City would therefore have sufficient water supplies available to serve the project and reasonably foreseeable future development during all years, and the effect of the proposed project on water supplies would be less than significant.

There would be no unique or distinct differences or additional impacts from implementation of the proposed CNU Medical Center, compared to those associated with implementation of the proposed project as discussed above. Therefore, the City's existing and planned water treatment system would be sufficient to continue to provide the city of Sacramento, including the project area, with adequate water supplies to meet the needs of the proposed CNU Medical Center.

Wastewater

Development within the Innovation Park PUD area would represent an increase in the amount of developed land uses and population within the City and would therefore result in the generation and discharge of additional wastewater requiring treatment at the Sacramento Regional

Wastewater Treatment Plant (SRWWTP) by 0.953 mgd average dry-weather flow (ADWF). The peak wastewater flows anticipated from development within the project area of approximately 2.5 mgd ADWF. This would not exceed the current excess capacity of up to 46 mgd available at the SRWWTP. The ongoing use and installation of water meters, in addition to compliance with water conservation mandates, projects a 25 percent decrease in per capita consumption over the next 20+ years; substantial additional conservation is therefore expected throughout the service area in which the Innovation Park PUD area is situated, and the existing 181-mgd wastewater treatment capacity of the SRWWTP would be sufficient for at least 40 more years.

New development proposed for the CNU Medical Center would increase the area's population through development of the project's planned land uses, the results of which would increase the generation of wastewater flows by 0.25 mgd ADWF. Peak wastewater flows from development in the CNU Medical Center project area would be approximately 0.63 mgd ADWF. However, this increase in wastewater flow would not exceed the current excess capacity of up to 46 mgd at the SRWWTP. There would be no distinct or additional impacts on wastewater treatment capacity associated with the proposed CNU Medical Center beyond those discussed for the proposed Innovation Park PUD as a whole; as a result, no additional wastewater treatment capacity is needed to accommodate the increase in wastewater anticipated under the proposed project, and this impact would be less than significant.

Development planned within the Innovation Park PUD area could be accommodated by existing wastewater conveyance facilities onsite and downstream of the site, although the construction of a backbone water conveyance system and sewer mains to serve future development within the Innovation Park PUD area, including the proposed CNU Medical Center, would be required. The environmental impacts due to construction within the Innovation Park PUD area and the CNU Medical Center site are analyzed in the other sections of this EIR. For this reason, impacts due to the installation of new sewer mains would be less than significant.

Storm Drainage

The Innovation Park PUD area is located within the North Natomas Drainage Basin. Given the proposed modifications to site land uses from existing conditions, development under the proposed Innovation Park PUD is anticipated to introduce minimal change in the imperviousness of the project area and minimal, if any, increases in stormwater runoff. The existing drainage system that serves the project area was designed to accommodate development assumed in the North Natomas Drainage Plan. Development anticipated under the proposed Innovation Park PUD would result in less impervious surface within the project area than was projected in the North Natomas Drainage Plan; therefore, the existing drainage system should be adequate to serve future development allowed under the proposed project. However, the applicant has prepared a drainage study to be submitted to the City for review and verification of this conclusion. Given the urbanized nature of the project site and vicinity, it is unlikely that any upgrades to the drainage system would result in significant environmental impacts, as these improvements would occur within an existing street or right-of-way that has previously been disturbed. In addition, the construction of an on-site storm drain system to serve future development within the Innovation Park PUD area would also be required. The construction-related environmental impacts of an on-site storm drain system within the Innovation Park PUD

area are analyzed in the other sections of this EIR, and no distinct or additional impacts associated with storm drainage are anticipated for the proposed CNU Medical Center beyond those associated with implementation of the proposed Innovation Park PUD. For these reasons, impacts due to the installation of new storm drains would be less than significant.

Solid Waste

Construction waste associated with development allowed under the proposed Innovation Park PUD would be required to comply with ordinances established by the Sacramento Regional Solid Waste Authority (SWA) and the City of Sacramento to achieve a 30 percent recycling rate and to divert at least 50 percent of construction waste to a certified recycling processor, respectively. Sufficient landfill capacity is available to receive demolition and construction waste that would not be recycled; therefore, new or expanded solid waste management or disposal facilities would not be required to accommodate project-related construction. There would be no distinct or additional construction impacts associated with the disposal of solid waste related to development of the CNU Medical Center site, beyond those anticipated for development of the Innovation Park PUD, broadly. For this reason, no adverse physical environmental effects would occur and, as a result, potential construction period impacts on landfills resulting from the proposed project would be less than significant.

Project-related waste generated from operation of development allowed under the proposed Innovation Park PUD would be collected and transported to local landfills by the City of Sacramento and either recycled according to City requirements, or landfilled at the Kiefer Landfill in Sloughhouse, California, or the Lockwood Landfill in Sparks, Nevada. Although the household, commercial, residential, and office wastes generated by the proposed project would represent an increase over current levels of waste generation for the project area, projected project-related operational wastes from the proposed Innovation Park PUD would represent less than one-tenth of one percent of the total annual capacity for these two landfills. Sufficient landfill capacity to serve development under the proposed Innovation Park PUD is therefore available, and no expanded or new landfill or solid waste management facilities would be required.

Operations allowed under the proposed CNU Medical Center would result in the generation of household, commercial, medical, residential, and office wastes. The CNU Medical Center would generate solid waste at a higher rate than both existing conditions and development allowed under the proposed Innovation Park PUD, there is sufficient capacity to receive this waste at both the Kiefer Landfill and the Lockwood Landfill. No expanded or new landfill or solid waste management facilities would be required under the proposed project, and the impact of the proposed project related to solid waste generation during project operation would therefore be less than significant.

Electricity, Natural Gas, and Telecommunications

Development allowed under the proposed Innovation Park PUD, including the CNU Medical Center, would be served by a number of existing connections to SMUD's off-site 12 kilovolt (kV) distribution systems; however, the meet the estimated 132,263 megawatt-hours per year (MWh/year) of electricity required to the serve the Innovation Park PUD, including the CNU

Medical Center, a new electrical substation would be required. The construction of onsite electrical infrastructure (e.g., distribution lines) would also be required. Natural gas would be used as the primary source of space and water heating for development under the Innovation Park PUD, which would demand approximately 246,141 million British thermal units per year (Btu/year). Additional natural gas infrastructure (e.g., distribution lines) would need to be constructed on-site to meet this demand. Finally, new telecommunications infrastructure would be required to adequately meet the technological needs of proposed development within the Innovation Park PUD area. No distinct or additional impacts associated with energy or telecommunications utilities are anticipated for the proposed CNU Medical Center beyond those associated with implementation of the proposed Innovation Park PUD.

The environmental impacts due to construction of these energy and telecommunications utilities within the Innovation Park PUD area are analyzed in the other sections of this EIR. With respect to any required off-site improvements to the existing electrical, natural gas, and/or telecommunication distribution systems, given the urbanized nature of the adjacent area, it is unlikely that construction of any additional electrical, natural gas, and telecommunication infrastructure would result in significant environmental impacts, as the improvements would occur within an existing street or right-of-way that has been previously disturbed. For these reasons, impacts due to the installation of electrical, electrical, natural gas, and/or telecommunication facilities would be less than significant.

Significant and Unavoidable Environmental Effects

Throughout this EIR, many significant environmental impacts are identified, and mitigation measures are described that would eliminate the impacts or decrease them to a less-than-significant level. Similarly, many impacts are identified that would be less than significant without the need for additional mitigation measures. There are, however, a number of impacts that are identified that cannot be eliminated or decreased to a level of insignificance even with the implementation of feasible mitigation measures. Those project-specific significant and unavoidable environmental impacts are listed below.

Impact 4.2-2: Construction activities associated with development under the proposed project could result in a short-term emissions increase of NO_x, PM_{10}, and $PM_{2.5}$, for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

Impact 4.8-3: The proposed project would result in an increase in traffic that would increase roadside noise levels in the area such that project noise would exceed the City of Sacramento's noise impact standards. Even with the implementation of mitigation this impact would be significant and unavoidable.

Impact 4.8-4: The proposed project would result in a substantial permanent increases in ambient noise levels in the area as a result of noise generated from stationary sources and operational activity. Even with the implementation of mitigation this impact would be significant and unavoidable.

Impact 4.8-5: Noise generated by helicopter landings and takeoffs at the helipad on the roof of the proposed CNU Medical Center's hospital would expose off-site residential land uses to single-event noise exposure levels that would awaken more than 5 percent of people from sleep**.** Even with the implementation of mitigation this impact would be significant and unavoidable.

Cumulative Effects

Impact 4.2-5: Construction activities associated with development under the proposed project (including the CNU Medical Center) could contribute to cumulative increases in short-term emissions.

Impact 4.8-7: Construction activities associated with the project, in combination with the construction of other cumulative development, could cause a substantial temporary or periodic increase in ambient noise levels in the area. Even with the implementation of mitigation this impact would be significant and unavoidable.

Impact 4.8-9: Traffic associated with the proposed project, in combination with traffic from other cumulative development, would increase roadside noise levels in the area. Even with the implementation of mitigation this impact would be significant and unavoidable.

Alternatives to the Proposed Project

Pursuant to CEQA Guidelines Section 15126.6, this EIR must present a discussion of a reasonable range of alternatives to the proposed Innovation Park PUD. The alternatives should be designed to feasibly accomplish most of the basic objectives of the proposed project while looking to avoid or substantially lessen one of more of its significant effects. The feasibility of an alternative is determined by the lead agency based on a variety of factors, including, but not limited to, site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and site accessibility and control.

The alternatives evaluated in the EIR are described below. Of the alternatives considered for the proposed Innovation Park PUD, two alternatives found to be overtly infeasible or worthy of dismissal prior to further consideration is also analyzed in Chapter 6, Project Alternatives, of this EIR. In identifying alternatives to the proposed Innovation Park PUD, primary consideration was given to alternatives that could reduce significant unavoidable impacts resulting from the project while still obtaining the objectives of the proposed Innovation Park PUD and CNU Medical Center project. To varying degrees, the following alternatives would also avoid and/or lessen impacts, including some or all of the significant and unavoidable impacts, of the proposed project. The following alternatives are considered include:

- Alternative 1: No Project/No Development Alternative
- Alternative 2: No Project/Existing General Plan
- Alternative 3: Smaller Footprint
- Alternative 4: Different Land Use Mix

No Project Alternatives

The CEQA Guidelines require consideration of the "No Project" alternative, which evaluates the impacts associated with not moving forward with the proposed Innovation Park PUD. The "No Project" alternative can take many forms, including doing nothing, depending on what may likely occur if a project is not developed. In the case of the proposed Innovation Park PUD, two "No Project" alternatives are considered: not developing the Innovation Park PUD area and leaving the Sleep Train Arena building and adjacent practice facility vacant (Alternative 1), and developing the site under the existing Urban Center High General Plan land use designations (Alternative 2).

No Project/No Development Alternative

Under the No Project/No Development Alternative (Alternative 1), development allowed under the proposed Innovation Park PUD would not be developed, and the Innovation Park PUD area, including the CNU Medical Center site, would remain in its current condition. The existing Sleep Train Arena building and adjacent practice facility would remain vacant on the site, and the asphalt parking lot surrounding the arena as well as the existing landscaping and open areas would remain in their current condition. Under the No Project/No Development Alternative, the City would not approve any project within the Innovation Park PUD area.

No Project/Existing General Plan Alternative

Under Alternative 2, the No Project/Existing General Plan Alternative, the Innovation Park PUD area, including the CNU Medical Center site, would be developed under the General Plan's existing Urban Center High land use designation, which permits a residential density of 24–250 units per acre, and a development intensity of 0.5 to 8.0 floor area ratio (FAR). However, under the current zoning designation of SPX Zone – Sports Complex Zone, no residential development would be permitted on the project site. Therefore, a rezone for the project site would be required in order for this alternative to be implemented.

Under this alternative, the density and intensity of development within the Innovation Park PUD area would be doubled compared to the proposed project, with densities ranging from 40 to 100 units per acre and intensities ranging from 0.8 to 1.4 FAR. The CNU Medical Center would not be constructed under this alternative, as it is not an anticipated or allowable use under the existing project site zoning. The existing freshwater emergent wetland would be removed and developed, in contrast with the partial retention of that area under the proposed project. Alternative 2 would provide up to approximately 4,031 dwelling units and about 2.3 million square feet (sf) of nonresidential space at buildout. This buildout is compared to the proposed project, which would result in approximately 3,071 residential units and approximately 4,149,400 sf of nonresidential square footage.

Smaller Footprint Alternative

Under the Smaller Footprint Alternative (Alternative 3), the entirety of Parcel B would be set aside as open space to preserve the water feature and riparian habitat, including the black-crowned night heron and cattle egret rookery, that has developed within the partially constructed

baseball field and stadium. The foundation of the partially constructed baseball field and stadium would remain under this alternative and the land to the north/northeast of the water feature and riparian habitat would be converted to native grassland and available to serve as foraging habitat. As a result of the preservation of Parcel B as habitat and open space, the nonresidential uses planned for Parcel B under the proposed project would shift to Parcel E under Alternative 3. However, as Parcel E is approximately 20 percent smaller than Parcel B, not all of the nonresidential square footage planned for Parcel B under the proposed project could be accommodated on Parcel E. The residential units planned on Parcel E under the proposed project would be eliminated under Alternative 3.

Under this alternative, approximately a quarter of the residential units anticipated under the proposed project would be constructed. Approximately 78 percent of the nonresidential square footage anticipated under the proposed project would be constructed under Alternative 3. Alternative 3 would provide up to approximately 821 dwelling units and about 392,691 sf of nonresidential space at buildout, as compared to approximately 3,071 residential units and approximately 4,149,400 sf of nonresidential square footage under the proposed project.

Under Alternative 3, a smaller version of the CNU Medical Center would be constructed on Parcels D and D-1. The height of the hospital building would be reduced to approximately 165 feet (eight stories) and would consist of 280 patient beds at buildout (the project proposes 420 beds). The reduction in building height would result in a reduction in hospital building square footage. The on-site helistop would be eliminated from the CNU Medical Center, and helicopter service would be provided at Sacramento International Airport, approximately 5 miles northwest of the Innovation Park PUD area. All other proposed CNU Medical Center features, facilities, and infrastructure improvements would remain the same under this alternative.

Different Land Use Mix Alternative

Under Alternative 4, the Different Land Use Mix Alternative, half of the nonresidential space planned for Parcel B under the proposed project would be eliminated and replaced with residential uses. The purpose of this adjustment is to reduce the amount of vehicle-related noise generated within the Innovation Park PUD area, as commercial uses typically housed in nonresidential space generate more trips than residential uses on a per acre basis, therefore resulting in higher noise impacts. Under this alternative, the number of residential units within the Innovation Park PUD area would increase by approximately 25 percent compared to the proposed project while the amount of nonresidential space under Alternative 4 would decrease by about 35 percent compared to the proposed project.

The existing freshwater emergent wetland on Parcel B would be partially preserved (approximately 4 acres) and treated as open space and as a passive recreational amenity, the same as the proposed project.

The CNU Medical Center would be developed the same as under the proposed project, with 3,679,400 sf of nonresidential uses and 420 hospital beds.

Alternative 4 would provide up to approximately 2,545 dwelling units and about 784,700 sf of commercial space at buildout, as compared to approximately 3,071 residential units and approximately 4,149,400 sf of nonresidential square footage under the proposed project.

Environmentally Superior Alternative

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. Section 15126.6 (e)(2) of the CEQA Guidelines states that an environmentally superior alternative must be designated and that if the environmentally superior alternative is the "No Project" alternative, the EIR must identify an environmentally superior alternative among the other alternatives.

From among the alternatives evaluated in the EIR for the proposed Innovation Park PUD, the environmentally superior alternative would be Alternative 1, the No Project/No Development Alternative. This alternative would avoid all significant impacts associated with the proposed Innovation Park PUD.

Among the other alternatives to the proposed project, Alternative 3, the Smaller Footprint Alternative, would have the fewest adverse impacts because the development footprint would be smaller by approximately 30 acres. As described, Alternative 3 would require a shorter construction duration, which would lessen the severity of a number of impacts that would be influenced by the amount of construction. A smaller CNU Medical Center hospital would reduce the number of trips to and from the hospital and result in fewer operational impacts. In addition, because Parcel B would be set aside as open space to preserve the water feature and riparian habitat, the severity of biological resources impacts would greatly be reduced. Alternative 3 would lessen the severity of significant and unavoidable impacts from the proposed Innovation Park PUD.

Summary Table

Table S-5 (Summary of Impacts and Mitigation Measures Evaluated in the Draft EIR) has been organized to correspond with the environmental issues discussed in Chapter 4. The summary table is arranged in four columns:

1. Environmental impacts ("Impact").
2. Level of significance without mitigation ("Significance Before Mitigation").
3. Mitigation measures ("Mitigation Measure").
4. The level of significance after implementation of mitigation measures ("Significance After Mitigation").

If an impact is determined to be significant or potentially significant, mitigation measures are identified, where appropriate. More than one mitigation measure may be required to reduce the impact to a less-than-significant level. This EIR assumes that all applicable plans, policies, and regulations would be implemented, including, but not necessarily limited to, City General Plan policies, laws, and requirements or recommendations of the City of Sacramento. Applicable

plans, policies, and regulations are identified and described in the Regulatory Setting of each issue area and within the relevant impact analysis. A description of the organization of the environmental analysis and key foundational assumptions regarding the approach to the analysis are provided in Section 4.0, *Introduction to the Analysis*.

TABLE S-5
SUMMARY OF IMPACTS AND MITIGATION MEASURES EVALUATED IN THE DRAFT EIR

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
4.1 Aesthetics Light and Glare			
Impact 4.1-1: Development allowed under the proposed project could substantially degrade the existing visual character or quality of public views of the site and its surroundings, or conflict with applicable zoning and other regulations governing scenic quality.	LTS	None required.	N/A
Impact 4.1-2: Development allowed under the proposed project would create a new source of substantial light.	S	**Mitigation Measure 4.1-2 (PUD, CNU): Implement Signage and Lighting Design Plan** For each individual development project proposed within the project area, a signage and lighting design plan will be implemented, as approved in the City's Site Plan and Design Review process, to ensure that all outdoor lighting within the project area is designed to minimize lighting that is misdirected, excessive, or unnecessary by requiring light for development to be directed downward to minimize spill-over onto adjacent properties consistent with General Plan Policy ER 7.1.3.	LTS
Impact 4.1-3: Development allowed under the proposed project could create a new source of glare.	LTS	None required.	N/A
Impact 4.1-4: Development allowed under the proposed project, in combination with other cumulative development, could contribute to substantial cumulative degradation of the existing visual character or quality.	LTS	None required.	N/A
Impact 4.1-5: Development allowed under the proposed project, in combination with other cumulative development, could contribute to cumulative sources of substantial light in the area.	LTS	None required.	N/A
Impact 4.1-6: Development allowed under the proposed project, in combination with other cumulative development, could contribute to cumulative sources of glare.	LTS	None required.	N/A
4.2 Air Quality			
Impact 4.2-1: Implementation of the proposed project could conflict with or obstruct implementation of the applicable air quality plan.	LTS	None required.	N/A

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TABLE S-5
SUMMARY OF IMPACTS AND MITIGATION MEASURES EVALUATED IN THE DRAFT EIR

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 4.2-2: Construction activities associated with development under the proposed project could result in a short-term emissions increase of NO_X, PM_{10}, and $PM_{2.5}$, for which the project region is non-attainment under an applicable federal or state ambient air quality standard.	S	**Mitigation Measure 4.2-2(a) (PUD, CNU): Implement SMAQMD Basic Construction Emissions Control Practices.** SMAQMD considers the following Basic Construction Emissions Control Practices feasible for controlling fugitive dust from a construction site. The practices also serve as BMPs that can be incorporated as part of individual projects proposed under the proposed project, allowing the use of the non-zero particulate matter significance thresholds. These emissions control practices shall be included either as Conditions of Approval (COA) or in a Mitigation Monitoring and Reporting Program (MMRP) to require implementation during project construction: 1. Control of fugitive dust is required by District Rule 403 and enforced by District Staff. 2. Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to, soil piles, graded areas, unpaved parking areas, staging areas, and access roads. 3. Cover or maintain at least 2 feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered. 4. Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited. 5. Limit vehicle speeds on unpaved roads to 15 miles per hour (mph). 6. All roadways. driveways, sidewalks, and parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. **Mitigation Measure 4.2-2(b) (PUD, CNU): Implement SMAQMD Exhaust Control Practices.** Applicants for individual projects construction under the proposed project shall require construction contractors to implement the following SMAQMD Exhaust Control Practices for diesel powered fleets working at construction sites: 1. Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to two minutes [California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site. 2. Provide current certificate(s) of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1]. 3. Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.	SU
		Mitigation Measure 4.2-2(c) (PUD, CNU): Implement Measures to Ensure the Use of Low-Emission Construction Equipment. The following measures related to the use of low-emission construction equipment shall be implemented for individual projects constructed under the Innovation Park PUD, including the CNU Medical Center: 1. Applicants for individual projects constructed under the Innovation Park PUD, including the CNU Medical Center, shall require construction contractors to provide a plan for approval by the SMAQMD that demonstrates that all heavy-duty off-road equipment used for construction activities shall be equipped with the most effective Verified Diesel Emissions Control Strategies (VDECS) available for the engine type. In this case, the best available VDECS would be implementation of Tier 4F engines as certified by CARB and USEPA. The equipment shall be properly maintained and tuned in accordance with manufacturers' specifications. This would be verified through an equipment inventory submittal and certification plan submitted to the SMAQMD.	

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		2. The plan shall have two components: an initial report submitted before construction, and a final report submitted at the completion. 3. The initial report shall be submitted at least four business days prior to construction activity using the SMAQMD's Construction Mitigation Tool (available at http://www.airquality.org/businesses/ceqa-land-use-planning/mitigation) and shall provide project information and construction company information and include the equipment type, horsepower rating, engine model year, projected hours of use, and the CARB equipment identification number for each piece of equipment to be used. All owned, leased, and subcontracted equipment to be used shall be included. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. 4. The final report shall be submitted at the end of the job, phase, or calendar year, as pre-arranged with SMAQMD staff and documented in the approval letter, to demonstrate continued project compliance. 5. Emissions from all off-road diesel-powered equipment used within the project area shall not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately, and the City and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed, as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this measure shall supersede other SMAQMD or state rules or regulations. 6. If at the time of granting of each building permit, the SMAQMD has adopted a regulation applicable to construction emissions, compliance with the regulation may completely or partially replace this mitigation. Consultation with the SMAQMD prior to construction will be necessary to make this determination.	
		Mitigation Measure 4.2-2(d) (PUD, CNU): Implement SMAQMD Enhanced Fugitive Dust Control Practices. City approval of any grading or improvement plans for individual projects proposed under the Innovation Park PUD (including the CNU Medical Center) shall include the following SMAQMD Enhanced Fugitive Dust Control Practices: *Soil Disturbance Areas* 1. Water exposed soil with adequate frequency for continued moist soil. However, do not overwater to the extent that sediment flows off the site. 2. Suspend excavation, grading, and/or demolition activity when wind speeds exceed 20 mph. 3. Install wind breaks (e.g., plant trees, solid fencing) on windward side(s) of construction areas. 4. Plant vegetative ground cover (fast-germinating native grass seed) in disturbed areas as soon as possible. Water appropriately until vegetation is established. *Unpaved Roads (Entrained Road Dust)* 1. Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site. 2. Treat site accesses to a distance of 100 feet from the paved road with a 6- to 12-inch layer of wood chips, mulch, or gravel to reduce the generation of road dust and road dust carryout onto public roads.	

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		3. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The phone number of the District shall also be visible to ensure compliance.	
		Mitigation Measure 4.2-2(e) (PUD, CNU): Prepare and Implement Construction Air Quality Management Plan for Arena Implosion. If implosion is chosen as the method of demolition for the arena, a Construction Air Quality Management Plan shall be submitted to SMAQMD which details the control measures that would be implemented to reduce impacts from implosion of the arena. The plan shall include but not be limited to the following measures: 1. Demarcation and maintenance of an adequate exclusion zone around the arena for as long as safety requirements warrant before and after the implosion. The extent of the exclusion zone shall be informed by a project-specific study that takes into account the noise, air quality, vibration, safety, and seismic impacts of the planned implosion based on the size of the arena and the amount of explosives used. 2. All land uses within the exclusion zone shall be notified in advance of the planned implosion, with reminders sent out a week before. Notifications shall include the date and time of the planned implosion, the extent of the exclusion zone, information on street closures, and the duration for which the exclusion zone and street closures will be maintained. Occupants of all land uses within the exclusion zone shall be advised to stay indoors with HVAC systems, windows, and doors closed for the duration of the implosion. 3. The same information shall also be posted as signs around the project area boundary, along with the name and telephone number of a complaint coordinator to contact with questions and complaints. 4. Transportation and temporary relocation shall be provided to sensitive receptors located within 0.25 mile of the arena. 5. To prevent hazardous materials from getting airborne during demolition or debris removal, recyclable (plumbing and ventilation) and hazardous materials (asbestos and lead) shall be removed from the structure before implosion. 6. Implosion shall be timed with favorable meteorological conditions, such as light precipitation with winds in the direction of sparse population. 7. Adequately wet the structure before, during, and after the implosion to reduce suspended dust. Settled dust shall be suppressed with water and vacuum street cleaners. 8. Use barricades and berms at ground level to control debris and dust. 9. Use dust controlling misters and street sweepers during cleanup of the debris.	
Impact 4.2-3: Operation of the development allowed under the proposed project (including the CNU Medical Center) could result in long-term emissions of NO_X, ROG, PM_{10}, and $PM_{2.5,}$ for which the project region is non-attainment under an applicable federal or state ambient air quality standard.	LTS	Consistent with SMAQMD direction, none required.	N/A

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 4.2-4: Development allowed under the proposed project (including the CNU Medical Center) would expose sensitive receptors to substantial pollutant concentrations.	S	**Mitigation Measure 4.2-4 (PUD, CNU): Implement Measures to Reduce Health Risks from Diesel-Powered Construction Equipment.** Applicants for individual projects constructed under the proposed Innovation Park PUD, including the proposed CNU Medical Center, shall require construction contractors to implement the following measures to reduce health risks from diesel-powered fleets working at construction sites: 1. Implement Mitigation Measure 4.2-2(c), Implement Measures to Ensure the Use of Low-Emission Construction Equipment, for all project-related construction activities. 2. Restrict construction activities to the daytime and evening hours between 7 a.m. and 10 p.m, except for limited circumstances requiring nighttime construction (e.g., elongated concrete pours, on-street movement of large construction equipment), which may be allowed in accordance with Sacramento City Code section 8.68.080.	LTS
Impact 4.2-5: Construction activities associated with development under the proposed project (including the CNU Medical Center) could contribute to cumulative increases in short-term emissions.	S	**Mitigation Measure 4.2-2(a) (PUD, CNU): Implement SMAQMD Basic Construction Emissions Control Practices.** **Mitigation Measure 4.2-2(b) (PUD, CNU): Implement SMAQMD Exhaust Control Practices.** **Mitigation Measure 4.2-2(c) (PUD, CNU): Implement Measures to Ensure the Use of Low-Emission Construction Equipment.** **Mitigation Measure 4.2-2(d) (PUD, CNU): Implement SMAQMD Enhanced Fugitive Dust Control Practices.** **Mitigation Measure 4.2-2(e) (PUD, CNU): Prepare and Implement Construction Air Quality Management Plan for Arena Implosion.** See Impact 4.2-2, above, for the text of these mitigation measures.	SU
Impact 4.2-6: Operation of the development allowed under the proposed project (including the CNU Medical Center) could contribute to cumulative increases in long-term emissions of NO_x, ROG, PM_{10}, and $PM_{2.5}$.	LTS	None required.	N/A
Impact 4.2-7: Development allowed under the proposed project (including the CNU Medical Center) could cumulatively expose sensitive receptors to substantial pollutant concentrations.	S	**Mitigation Measure 4.2-4 (PUD, CNU): Implement Measures to Reduce Health Risks from Diesel-Powered Construction Equipment.** See Impact 4.2-4, above, for the text of this mitigation measure.	LTS

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SUMMARY OF IMPACTS AND MITIGATION MEASURES EVALUATED IN THE DRAFT EIR

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
4.3 Biological Resources			
Impact 4.3-1: Construction under the proposed Innovation Park PUD project, including the CNU Medical Center, could result in the loss of potential foraging habitat for Swainson's hawk.	S	**Mitigation Measure 4.3-1: Compensate for Permanent Loss of Swainson's Hawk Foraging Habitat (PUD, CNU)** Construction of development under the Innovation Park PUD would affect 41.83 acres. To compensate for the permanent loss of 41.83 acres of Swainson's hawk foraging habitat, any future development project allowed under the Innovation Park PUD within suitable foraging habitat for Swainson's hawk shall preserve CDFW-approved foraging habitat for Swainson's hawk, or shall purchase Swainson's hawk foraging habitat mitigation credits at a CDFW-approved mitigation bank, at a minimum 1:1 ratio, which is double the mitigation ratio required by the NBHCP. Before purchase of credits at a mitigation bank and/or acquisition of mitigation land, the ratio and location of the mitigation shall be subject to approval by CDFW, USFWS, and/or the City's NBHCP Designee. This mitigation shall be implemented by the project proponent before the City's issuance of grading permits or of wrecking permits, whichever comes first, for any work in suitable Swainson's hawk foraging habitat. In addition, because of the limited availability of mitigation lands in the Natomas Basin, mitigation of impacts on Swainson's hawk foraging habitat shall not reduce the availability of needed mitigation lands for development subject to the NBHCP.	LTS
Impact 4.3-2: Construction under the proposed Innovation Park PUD project, including the CNU Medical Center, could result in the loss of potential nesting habitat for special-status bird species and other sensitive and/or protected bird species.	S	**Mitigation Measure 4.3-2(a): Conduct Preconstruction Survey for Active Raptor and Migratory Bird Nests and Implement Avoidance Measures. (PUD, CNU)** Construction activities associated with clearing and grubbing, tree removal, demolition of buildings or other structures (including demolition by implosion), and removal of riparian woodland/filling of the pond shall occur outside of the nesting season that encompasses all birds (September 16 through January 31), unless the following measures are complied with. If vegetation removal begins during the nesting season (February 1 to September 15), the project applicant shall retain a qualified biologist to conduct a preconstruction survey for active nests in suitable nesting habitat within 500 feet of the construction area for nesting raptors and migratory birds. The preconstruction survey shall be conducted within five days before the start of ground-disturbing activities. If the preconstruction survey shows that there is no evidence of active nests, a letter report shall be submitted to the City for its records within 14 days of the survey and no additional measures are required. If construction activities do not begin within five days of the preconstruction survey, or if construction halts for more than five days, an additional preconstruction survey is required within five days of the initiation or re-initiation of construction activities. If active nests are found during the survey, the project proponent shall implement mitigation measures to ensure that the species will not be adversely affected, which will include establishing a no-work buffer zone, as approved by the City in consultation with the CDFW and USFWS, around the active nest. Measures will include, but not be limited to: 1. The project proponent shall maintain a 500-foot buffer around each active raptor nest and a 100-foot buffer around the black-crowned night heron and cattle egret rookery (during nesting season). No construction activities shall be permitted within this buffer. For other nesting migratory and passerine birds, a no-work buffer zone shall be established around the active nest, as determined by the City in consultation with CDFW and/or USFWS. The no-work buffer may vary depending on species and site-specific conditions, as determined by the City in consultation with CDFW and USFWS.	LTS

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		2. Depending on conditions specific to each nest, and the relative location and rate of construction activities, it may be feasible for construction to occur as planned within the buffer without affecting the breeding effort. In this case (to be determined on a case-by-case basis), a qualified biologist shall monitor the nest(s) during construction within the buffer. If, in the professional opinion of the monitor, the project would affect the nest, the biologist shall immediately inform the construction manager and the project proponent shall notify the City's Planning Director. The construction manager shall stop construction activities within the buffer until the nest is no longer active. Completion of the nesting cycle shall be determined by the qualified biologist. If construction begins outside of the migratory bird breeding season (February 1 through August 31), the applicant is permitted to continue construction activities in the existing active construction footprint. However, an additional nesting bird survey shall be conducted if construction is expected to extend outside of the active construction footprint. 3. Mitigation Measure 4.7-1(a), item viii (see Section 4.7, *Noise and Vibration*), which requires employment of noise-reducing pile installation techniques, shall be implemented for construction activities that include pile driving.	
		Mitigation Measure 4.3-2(b): Conduct Preconstruction Surveys for Burrowing Owls and Implement Avoidance Measures. (PUD) 1. Preconstruction surveys for burrowing owls shall be conducted by a qualified biologist (as approved by CDFW) prior to construction activities within 500 feet of the annual grassland. For the purposes of burrowing owl, construction activities include mobilization, vegetation clearing operations, grading, including in areas where disturbance has occurred from construction prior to development. Surveys shall be conducted no more than 30 days and no less than 14 days before the start of construction activities. If construction activities are delayed for more than 30 days after the initial preconstruction surveys, a new preconstruction survey shall be required. All surveys shall be conducted in accordance with the *Staff Report on Burrowing Owl Mitigation*[3] (**Appendix D**). This mitigation shall be implemented by the project proponent. 2. If burrowing owls are discovered within 500 feet of the disturbance footprint while construction is actively occurring during the nesting season, the CDFW-approved project biologist shall be notified immediately. The biologist shall establish a 500-foot no-work buffer. The biologist shall conduct daily check-in site visits for the first week to monitor the nest. After the first week, the biologist shall conduct two site visits per week to monitor the nest until the biologist verifies through non-invasive methods that either: (1) the owls have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival.	
		Mitigation Measure 4.3-2(c): Conduct Preconstruction Surveys for Swainson's Hawk and Implement Avoidance and Minimization Measures. (PUD, CNU) 1. If construction activities are anticipated to begin during the Swainson's hawk nesting season (March 1 to September 15) in each year construction activities begin, a qualified biologist shall conduct a minimum of three preconstruction surveys during each of the two recommended survey periods in accordance with the 2000 Swainson's Hawk Technical Advisory Committee's (TAC's) *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*[4] (**Appendix D**). Construction activities include clearing and grubbing, tree removal, initial grading, removal of riparian woodland/filling of the pond, and noise and vibration associated with construction equipment. The table below provides the Swainson's Hawk TAC's survey periods:	

[3] California Department of Fish and Wildlife. 2012. *Staff Report on Burrowing Owl Mitigation.* Sacramento, CA.
[4] Swainson's Hawk Technical Advisory Committee. 2000. *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*. May 31, 2000.

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation

Survey Period	Survey Time	Notes
I. January–March	All day	Optional
II. March 20–April 5	Sunrise–10 a.m.; 4 p.m.–sunset	
III. April 5–April 20	Sunrise–12 noon; 4:30 p.m.–sunset	
IV. April 21–June 10	Monitoring known nest sites only	Initiating surveys not recommended
V. June 10–July 30	Sunrise–12 noon; 4 p.m.–sunset	

For example, if construction is anticipated to begin in May, three surveys would be conducted in Survey Period II and three surveys would be conducted in Survey Period III. All potential nest trees within 0.50 mile of the project footprint shall be visually examined for potential Swainson's hawk nests, as accessible. If no active Swainson's hawk nests are identified in or within 0.50 mile of the project area, a letter report documenting the survey methodology and findings shall be submitted to the City for their files within 14 days of the final survey for each year of construction. This mitigation shall be implemented by the project proponent before any project-related work in suitable nesting habitat.

2. If active Swainson's hawk nests are found within 0.25 mile of construction activities, a survey report shall be submitted to CDFW, and an avoidance and minimization plan shall be developed for approval by CDFW before the start of construction. The avoidance plan shall identify measures to minimize impacts on the active Swainson's hawk nest, depending on the exact location of the nest. These measures shall include but not be limited to:

   a. All construction personnel shall receive a worker environmental awareness training program from a CDFW- and USFWS-approved biologist before the start of any construction activities.

   b. A buffer zone and work schedule shall be established to avoid affecting the nest during critical periods. If possible, no work will occur within 0.25 mile of the nest while it is in active use. If work will occur within 0.25 mile of the nest, construction will be monitored by a qualified biologist on a daily basis to ensure that no work occurs within a minimum of 500 feet of the nest during incubation or within 10 days after hatching.

   c. A biological monitor shall conduct regular monitoring of the nest during construction activities.

   d. The biologist shall be allowed to halt construction activities if construction activities are disturbing the nest. The biologist will be able to halt construction until she/he has determined that the nest activity is resuming normal activity. Once the biologist determines that normal nesting behavior has resumed, construction activities may recommence.

   e. No plastic, monofilament, jute, or similar erosion control matting shall be placed within the project area when working within 200 feet of annual grassland or suitable nest sites. Possible substitutions include coconut coir matting, tackified hydroseeding compounds, or other material approved by CDFW and USFWS.

Impact 4.3-3: Construction under the proposed project could result in impacts to special-status bat species.	S	**Mitigation Measure 4.3-3: Conduct Bat Habitat Assessment and Field Surveys and Avoid Disturbance of Maternity Roosts. (PUD, CNU)** Construction activities associated with removal of landscape and riparian trees, demolition and potential implosion of the Sleep Train Arena building and associated infrastructure, and demolition of the foundation of the partially constructed baseball field and stadium shall occur between September 1 and April 30, which is outside of the breeding season for bat species, to the extent feasible.	LTS

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		If removal of landscape and riparian trees begin during the breeding period for bats (May 1 through August 31), a qualified biologist shall conduct a preconstruction survey within five days prior to the scheduled tree removal. The biological shall inspect all trees containing crevices and the bark or cavities for evidence of sign (i.e. guano). If no sign is observed, a letter report shall be submitted to the City for its records within 14 days of the survey and no additional measures associated with tree removal are required. If tree removal does not begin within five days of the preconstruction survey, or if the removal of previously inspected trees halts for more than five days, an additional preconstruction survey is required within five days of the initiation or re-initiation of tree removal. If a maternity colony is observed within a tree, that tree shall not be removed until the breeding season has been completed. Alternatively, a qualified bat biologist may exclude individual day-roosting bats in consultation with CDFW, thereby allowing tree removal to continue after successful exclusion activities. If construction activities associated with the demolition and potential implosion of the Sleep Train Arena building and associated infrastructure within the CNU Medical Center and the demolition of the remnant baseball field foundation in the Innovation Park PUD are anticipated to occur during the breeding season (May 1 through August 31), a qualified biologist shall conduct a nighttime emergence survey no later than one-half hour before sunset and continue until at least 3 hours after sunset to allow for detection of both day- and night-roosting bats. The survey shall be conducted within five days of the scheduled implosion of the Sleep Train Arena building and associated infrastructure and the demolition of the remnant baseball field foundation. If any bats are observed emerging from any of the buildings or foundation, the building(s) or the foundation shall not be demolished until the breeding season has been completed.	
Impact 4.3-4: Vegetation clearing activities and initial grading under the proposed project could result in impacts to special-status plant species.	S	**Mitigation Measure 4.3-4: Conduct Preconstruction Survey for Special-Status Plant Species and Prepare and Implement a Transplantation and Monitoring Plan if Necessary.** A qualified plant biologist approved by CDFW shall conduct a preconstruction survey in the annual grassland for stinkbells (blooms March-June) within the project area including the CNU Medical Center and within the riparian woodland for Stanford's arrowhead (blooms May-November) within Innovation Park PUD (excluding the CNU Medical Center) during their blooming periods prior to vegetation clearing activities and initial grading. The survey will be conducted following the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*.[5] If special-status plant species are found, the project applicant shall prepare a transplantation and monitoring plan in consultation with CDFW. The transplantation and monitoring plan will be subject to review and approval by CDFW before the start of any construction activities in the special-status plant species area. This plan will describe the intent and anticipated success of transplanting, and specify success criteria for transplanted plants and related long-term protection and management of transplanted plants. This mitigation shall be implemented by the project applicant.	LTS
Impact 4.3-5: Impacts to the lacustrine/ freshwater emergent wetland within the Innovation Park PUD would have the potential to result in a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	S	**Mitigation Measure 4.3-5(a): Acquire Applicable Wetland Permits before Issuance of Grading or Wrecking Permits. (PUD)** Before the City issues a grading permit or demolition permit, whichever comes first, for any work in riparian and emergent wetlands or lacustrine habitats in the project area, the project applicant shall acquire all applicable permits. This includes acquiring a permit for dewatering activities in the event the pond needs to be dewatered before any impacts. These permits may include, but would not be limited to, a CWA Section 404 permit from USACE, a CWA Section 401 water quality certification from the Central Valley RWQCB, and/or a Section 1600 lake and streambed alteration agreement from CDFW.	LTS

[5] California Department of Fish and Wildlife. 2018. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities.* Sacramento, CA.

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		Mitigation Measure 4.3-5(b): Implement Wetland Mitigation to Demonstrate No Net Loss of Wetlands and Other Waters. (PUD) The project applicant shall demonstrate that there is no net loss of wetlands and other waters of the United States and state-protected waters/wetlands from project construction. To ensure this, wetland mitigation shall be developed as a part of the permitting process as described in Mitigation Measure 4.3-5(a) above. Mitigation shall be provided before construction-related impacts on the existing wetlands occur. The exact mitigation ratio will be determined in consultation with USACE and/or CDFW, based on the type and value of the wetlands affected by the project, but the project shall compensate for affected wetlands at a ratio no less than 1:1. Compensation shall take the form of wetland preservation or creation in accordance with USACE and/or CDFW mitigation requirements, as specified in project permits. Preservation and creation will occur off-site through the purchase of credits at a USACE- and/or CDFW-approved mitigation bank and/or the acquisition of mitigation land. Because the project area is not subject to the NBHCP, mitigation of impacts on wetlands and other waters of the United States and state-protected waters/ wetlands can occur outside of the Natomas Basin. Alternatively, although exempt from the NBHCP, the project proponent may also pay NBHCP fees.	
Impact 4.3-6: Construction under the proposed Innovation Park PUD could result in a substantial adverse effect on riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations or by CDFW or USFWS.	S	**Mitigation Measure 4.3-6: Compensate for Removal of Riparian Woodland Habitat.** The project proponent shall compensate for the removal of riparian woodland habitat at a minimum ratio of 3:1. Compensation shall take the form of preservation or creation in accordance with CDFW mitigation requirements, as required under project permits. Preservation and creation shall occur off-site through the purchase of credits at a USACE- and/or CDFW-approved mitigation bank, through the acquisition of mitigation land, or through the purchase of NBHCP fees.	LTS
Impact 4.3-7: Construction under the proposed Innovation Park PUD could interfere substantially with the movement of resident or migratory fish or wildlife species, migratory corridors, or impede the use of native wildlife nursery sites.	LTS	None required.	N/A
Impact 4.3-8: Construction under the proposed Innovation Park PUD and CNU Medical Center could result in removal of protected trees and conflict with City of Sacramento policies protecting trees.	S	**Mitigation Measure 4.3-8(a): Conduct Arborist Survey of Trees within the Project Footprint to Comply with the City's Tree Ordinance. (PUD)** Should trees occur within the project footprint associated with the Innovation Park PUD, the project applicant shall retain a certified arborist to conduct an arborist survey to inventory all trees within the footprint.	LTS
	S	**Mitigation Measure 4.3-8(b): Obtain Permit for Removal of Protected Trees within the Project Footprint. (PUD, CNU)** Before the start of construction activities in the Innovation Park PUD and the CNU Medical Center involving any work that would remove protected trees as defined by Sacramento City Code Chapter 12.56, the applicant shall obtain a permit for the removal of protected trees. The project proponent shall comply with all conditions of any issued permit during construction.	

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SUMMARY OF IMPACTS AND MITIGATION MEASURES EVALUATED IN THE DRAFT EIR

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 4.3-9: Construction under the proposed project could conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.	NI	None required.	N/A
Impact 4.3-10: Construction under the proposed project, in combination with other cumulative development, would contribute to the cumulative harm to, or loss of nesting habitat for, special-status bird species and other sensitive and/or protected bird species.	S	**Mitigation Measure 4.3-2(a): If Vegetation Removal Begins during Nesting Season, Conduct Preconstruction Survey for Active Raptor and Migratory Bird Nests and Implement Avoidance Measures.** **Mitigation Measure 4.3-2(b): Conduct Preconstruction Surveys for Burrowing Owls and Implement Avoidance Measures.** **Mitigation Measure 4.3-2(c): Conduct Preconstruction Surveys for Swainson's Hawk and Implement Avoidance and Minimization Measures.** See Impact 4.3-2, above, for the text of these mitigation measures.	LTS
Impact 4.3-11: Construction under the proposed project, in combination with other cumulative development, would contribute to the cumulative loss of habitat, or impacts to bat species.	S	**Mitigation Measure 4.3-3: Conduct Bat Habitat Assessment and Field Surveys and Avoid Disturbance of Maternity Roosts.** See Impact 4.3-3, above, for the text of this mitigation measure.	LTS
Impact 4.3-12: Construction under the proposed Innovation Park PUD, in combination with other cumulative development, could contribute to the cumulative loss of special-status plant species.	S	**Mitigation Measure 4.3-4: Conduct Preconstruction Survey for Special-Status Plant Species and Prepare and Implement a Transplantation and Monitoring Plan if Necessary.** See Impact 4.3-4, above, for the text of this mitigation measure.	LTS
Impact 4.3-13: Construction under the proposed project, in combination with other cumulative development, would contribute to the cumulative loss of sensitive habitats, including protected wetland habitat as defined in Section 404 of the Clean Water Act, riparian vegetation, and state-protected waters/wetlands.	S	**Mitigation Measure 4.3-5(a): Acquire Applicable Wetland Permits before Issuance of Grading or Wrecking Permits.** **Mitigation Measure 4.3-5(b): Develop Wetland Mitigation to Demonstrate No Net Loss of Wetlands and Other Waters.** **Mitigation Measure 4.3-7(b): Compensate for Removal of Riparian Woodland Habitat.** See Impacts 4.3-5 and 4.3-7, above, for the text of these mitigation measures.	LTS
Impact 4.3-14: Construction under the proposed project, in combination with other cumulative development, would contribute to the cumulative loss of locally protected trees.	S	**Mitigation Measure 4.3-8(a): Conduct Arborist Survey of Trees within the Project Footprint to Comply with the City's Tree Ordinance.** **Mitigation Measure 4.3-8(b): Obtain Permit for Removal of Protected Trees within the Project Footprint.** See Impact 4.3-8, above, for the text of these mitigation measures.	LTS

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SUMMARY OF IMPACTS AND MITIGATION MEASURES EVALUATED IN THE DRAFT EIR

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
4.4 Cultural Resources			
Impact 4.4-1: Construction of development allowed under the proposed project could affect previously unrecorded historical resources and unique archaeological resources.	S	**Mitigation Measure 4.4-1(a) (PUD, CNU): Conduct Cultural Resources and Tribal Cultural Resources Sensitivity and Awareness Training Program Before Ground-Disturbing Activities** A tribal cultural resources awareness brochure and training program for all personnel involved in project implementation shall be developed in coordination with interested Native American Tribes. The brochure shall be distributed and the training will be conducted by Native American representatives, or tribal monitors from culturally affiliated Native American Tribes, before any stages of project implementation and construction activities begin on the project site. The training may be done in coordination with the project archaeologist. The program will include relevant information regarding sensitive tribal cultural resources, applicable regulations and protocols for avoidance, and consequences of violating state laws and regulations. The program will describe appropriate avoidance and minimization measures for resources that have the potential to be located on the project site and will outline what to do and whom to contact if any potential tribal cultural resources or archaeological resources are encountered. The program will underscore the requirement for confidentiality and culturally appropriate treatment of any find with cultural significance to Native Americans' tribal values. All operators of ground-disturbing equipment shall receive the training and sign a form that acknowledges receipt of the training.	LTS
		Mitigation Measure 4.4-1(b) (PUD, CNU): Implement Avoidance and Minimization Measures to Avoid Significant Impacts and Procedures to Evaluate Resources. If cultural resources or tribal cultural resources (such as structural features, unusual amounts of bone or shell, artifacts, or human remains) are encountered at the project site during construction, work shall be suspended within 100 feet of the find (based on the apparent distribution of cultural materials), and the construction contractor shall immediately notify the project's City representative. Avoidance and preservation in place is the preferred manner of mitigating impacts on cultural resources and tribal cultural resources. This may be accomplished by several alternative means, including those listed below. • Construction will be planned to avoid tribal cultural resources, archaeological sites, and/or other cultural resources; cultural resources will be incorporated within parks, green space, or other open space; archaeological resources will be covered; a cultural resource will be deeded to a permanent conservation easement; or the project will use other preservation and protection methods agreeable to the consulting parties and regulatory authorities with jurisdiction over the activity. • Recommendations for avoidance of cultural resources and tribal cultural resources will be reviewed by the City representative, interested culturally affiliated Native American Tribes, and other appropriate agencies in light of factors such as costs, logistics, feasibility, design, technology, and social, cultural, and environmental considerations, and the extent to which avoidance is consistent with project objectives. Avoidance and design alternatives may include realignment within the project site to avoid cultural resources or tribal cultural resources, modification of the design to eliminate or reduce impacts on cultural resources or tribal cultural resources, or modification or realignment to avoid highly significant features within a cultural resource or tribal cultural resource. • Native American representatives from interested culturally affiliated Native American Tribes will be invited to review and comment on these analyses and shall have the opportunity to meet with the City representative who have technical expertise to identify and recommend feasible avoidance and design alternatives, so that appropriate avoidance and design alternatives can be identified.	

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SUMMARY OF IMPACTS AND MITIGATION MEASURES EVALUATED IN THE DRAFT EIR

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		• If the discovered cultural resource or tribal cultural resource can be avoided, the construction contractor(s) will install protective fencing outside the site boundary, including a 100-foot buffer area, before construction restarts. The boundary of a cultural resource or a tribal cultural resource will be determined in consultation with interested culturally affiliated Native American Tribes and tribes will be invited to monitor the installation of fencing. Use of temporary and permanent forms of protective fencing will be determined in consultation with Native American representatives from interested culturally affiliated Native American tribes. • The construction contractor(s) will maintain the protective fencing throughout construction to avoid the site during all remaining phases of construction. The area will be demarcated as an "Environmentally Sensitive Area." If a cultural resource or a tribal cultural resource cannot be avoided, the following performance standard shall be met before the continuance of construction and associated activities that may result in damage to or destruction of cultural resources or tribal cultural resources: • Each resource will be evaluated for California Register of Historical Resources eligibility through application of established eligibility criteria (California Code of Regulations Title 14, Section 15064.636), in consultation with consulting Native American Tribes, as applicable. If a cultural resource or a tribal cultural resource is determined to be eligible for listing in the California Register, the City will avoid damaging effects on the resource in accordance with PRC Section 21084.3. The City shall coordinate the investigation of the find with a qualified archaeologist (meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology) approved by the City and with interested culturally affiliated Native American Tribes that respond to the City's invitation. As part of the site investigation and resource assessment, the City and the archaeologist shall consult with interested culturally affiliated Native American Tribes to assess the significance of the find, make recommendations for further evaluation and treatment as necessary, and provide proper management recommendations should potential impacts on the resources be determined by the City to be significant. A written report detailing the site assessment, coordination activities, and management recommendations shall be provided to the City representative by the qualified archaeologist. These recommendations will be documented in the project record. For any recommendations made by interested culturally affiliated Native American Tribes that are not implemented, a justification for why the recommendation was not followed will be provided in the project record. Native American representatives from interested culturally affiliated Native American Tribes and the City representative will also consult to develop measures for long-term management of any discovered tribal cultural resources. Consultation will be limited to actions consistent with the jurisdiction of the City and taking into account ownership of the subject property. To the extent that the City has jurisdiction, routine operation and maintenance within tribal cultural resources retaining tribal cultural integrity shall be consistent with the avoidance and minimization standards identified in this mitigation measure. If the City determines that the project may cause a significant impact on a tribal cultural resource, and measures are not otherwise identified in the consultation process, the following are examples of mitigation capable of avoiding or substantially lessening potential significant impacts on a tribal cultural resource or alternatives that would avoid significant impacts on the resource. These measures may be considered to avoid or minimize significant adverse impacts and constitute the standard by which an impact conclusion of less than significant may be reached: • Avoid and preserve resources in place, including but not limited to planning construction to avoid the resources and protect the cultural and natural context, or planning green space, parks, or other open space to incorporate the resources with culturally appropriate protection and management criteria.	

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SUMMARY OF IMPACTS AND MITIGATION MEASURES EVALUATED IN THE DRAFT EIR

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		• Treat the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including but not limited to the following: o Protect the cultural character and integrity of the resource. o Protect the traditional use of the resource. o Protect the confidentiality of the resource. o Establish permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or using the resources or places. o Protect the resource.	
Impact 4.4-2: Construction of development allowed under the proposed project could affect human remains.	S	**Mitigation Measure 4.4-2 (PUD, CNU): Implement Procedures in the Event of Inadvertent Discovery of Human Remains.** If an inadvertent discovery of human remains is made at any time during project-related construction activities or project planning, the following performance standards shall be met before implementing or continuing actions such as construction that may result in damage to or destruction of human remains. In accordance with the California Health and Safety Code (HSC), if human remains are encountered during ground-disturbing activities, the City shall immediately halt potentially damaging excavation in the area of the remains and notify the Sacramento County Coroner and a qualified archaeologist (meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology) to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (HSC Section 7050.5[b]). If the human remains are of historic age and are determined by the Sacramento County Coroner to be not of Native American origin, the City will follow the provisions of HSC Section 7000 et seq. regarding the disinterment and removal of non–Native American human remains. If the coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (HSC Section 7050[c]). After the coroner's findings have been made, the archaeologist and the NAHC-designated Most Likely Descendant, in consultation with the landowner, shall determine the ultimate treatment and disposition of the remains. The responsibilities of the City for acting upon notification of a discovery of Native American human remains are identified in Public Resources Code Section 5097.9 et seq.	LTS
Impact 4.4-3: Construction of development allowed under the proposed project could affect tribal cultural resources.	S	**Mitigation Measure 4.4-3 (PUD, CNU): Implement Mitigation Measures 4.2-1(a) and 4.2-1(b) and/or Mitigation Measure 4.4-2, As Applicable.**	LTS
Impact 4.4-4: Construction of development allowed under the proposed project, in combination with other development, could contribute to the cumulative loss or alteration of historic-era and indigenous archaeological resources and/or human remains in archaeological contexts.	S	**Mitigation Measure 4.4-4 (PUD, CNU): Implement Mitigation Measures 4.2-1(a) and 4.2-1(b) and/or Mitigation Measure 4.4-2, as applicable.**	LTS

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
4.5 Energy Demand and Conservation			
Impact 4.5-1: Construction activities for the proposed project would have the potential to result in significant environmental impacts due to wasteful, inefficient, and/or unnecessary use of energy.	LTS	None required.	N/A
Impact 4.5-2: Operational activities for the proposed project would have the potential to result in significant environmental impacts due to wasteful, inefficient, and/or unnecessary use of energy.	LTS	None required.	N/A
Impact 4.5-3: Construction and operation of the proposed project would have the potential to conflict with or obstruct adopted energy conservation plans or violate energy efficiency standards.	LTS	None required.	N/A
Impact 4.5-4: The proposed project, in combination with other cumulative development, would have the potential to contribute to cumulative increases in demand for energy.	LTS	None required.	N/A
4.6 Global Climate Change			
Impact 4.6-1: Construction of the proposed project could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	S	**Mitigation Measure 4.6-1(a): Implement SMAQMD BMPs for Reducing Construction Emissions.** Based on guidance from SMAQMD, the project applicants and/or construction contractors shall implement the following design features and on-site measures to reduce construction GHG emissions. i. Improve fuel efficiency from construction equipment: 1. Limit idling time either by shutting equipment off when not in use or reducing the time of idling to no more than 3 minutes (5 minute limit is required by the state airborne toxics control measure [Title 13, sections 2449(d)(3) and 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site. 2. Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated. 3. All equipment operators shall be trained in the proper use of equipment in accordance with the equipment manufacturer's specifications.	LTS

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		4. Use the proper size of equipment for the job based on the professional experience of the construction contractor foreman. 5. Use equipment with new technologies (e.g., repowered engines, electric drive trains) where commercially available. Prior to the commencement of construction, any lack of availability shall be demonstrated with documentation from at least two heavy equipment providers in the greater Sacramento area. Such documentation shall be submitted to the City and SMAQMD. ii. The construction contractor shall retain a qualified expert to evaluate whether on-site material hauling with trucks equipped with on-road engines would be less emissive than trucks with the off-road engines based on horsepower and emission factor. If it is determined to be less emissive, and confirmed by the City and SMAQMD, trucks with on-road engines shall be used for on-site material hauling. iii. Use alternative fuels, such as propane or solar, for generators at construction sites or use electrical power. iv. Use a California Air Resources Board approved low carbon fuel for construction equipment. (Oxides of nitrogen emissions from the use of low carbon fuel must not be allowed to increase due to this measure.) v. Provide carpools, shuttle vans, transit passes, and/or secure bicycle parking for construction worker commutes. vi. Reduce electricity use in the construction office(s) by using compact fluorescent bulbs, powering off computers every day, and replacing heating and cooling units with more efficient ones. vii. Recycle or salvage non-hazardous construction and demolition debris (goal of at least 75 percent by weight). viii. Use locally sourced or recycled materials for construction materials (goal of at least 20 percent based on costs for building materials, and based on volume for roadway, parking lot, sidewalk, and curb materials). Wood products utilized should be certified through a sustainable forestry program. ix. Utilize a low carbon concrete option. x. Use SmartWay certified trucks for deliveries and equipment transport.	
		Mitigation Measure 4.6-1b: Purchase of Carbon Offsets for GHG Construction Emissions. If full implementation of Mitigation Measure 4.6-1a is determined by a qualified expert retained by the project applicant(s) and verified by the City to not reduce construction emissions below the 1,100 metric tons CO_2e/year construction threshold, prior to the commencement of the construction activities for each calendar year, project applicant(s) shall provide the City documentation that verified carbon offset credits have been purchased and retired for their fair share of the metric tons CO_2e to offset project construction-related GHG emissions that would otherwise exceed the SMAQMD's construction significance threshold. Each project applicant's construction emissions calculations and estimates shall be prepared by a qualified expert and provided to the City for review and approval. The City will then determine each applicant's fair share of construction emissions within the Innovation Park PUD for that year based on the total City-approved project construction emissions estimates for the year. Each applicant will then be responsible for mitigating its fair share of construction emissions that exceed the significance threshold. Within 60 days of City approval of the estimated emissions, the project applicant(s) shall provide verification to the City that carbon offset credits have been purchased for the amount identified by the City-approved emissions estimates.	

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		The carbon offset credits shall be from a registry approved by CARB,[6] and be quantified and verified using protocols that are consistent with the criteria identified in the California Code of Regulations, title 17, section 95972 – namely that they be real; permanent; quantifiable; verifiable; additional as defined by Health and Safety Code section 38562, subdivisions(d)(1) and (d)(2) and California Code of Regulations, title 17, section 95802, subdivision (a); and enforceable. In addition, any offsets originating outside California must have GHG emissions programs equivalent to, or more stringent than, California's cap and trade program.	
		Mitigation Measure 4.6-1c: Compliance with Qualified Climate Action Plan. As an alternative to implementation of Mitigation Measures 4.6-1a and/or 4.6-1b, if a demolition, grading, and/or building permit application for a project within the Innovation Park PUD area is submitted subsequent to the adoption of a City of Sacramento Climate Action Plan (CAP) that meets the requirements of CEQA Section 15183.5b, for tiering and streamlining the analysis of GHG emissions (i.e., CEQA-qualified GHG reduction plan), that project shall be designed, constructed, and operated in compliance with the CAP. The City shall document such compliance in written findings prior to the issuance of the building permit. To substantiate that the project construction complies with the requirements of the CAP, the applicant(s) shall provide the City with an analysis prepared by a qualified expert that identifies the requirements specified in the CAP that apply to construction of the project and, if those requirements are not otherwise binding and enforceable, the applicant(s) shall commit to incorporating those requirements as part of the project. Documentation of incorporation of requirements shall be submitted to the City and approved by the City prior to the commencement of construction activities and no additional mitigation shall be required.	
Impact 4.6-2: Operation of the proposed project could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	S	**Mitigation Measure 4.6-2(a): Implement SMAQMD's Tier 1 BMPs.** Following guidance from SMAQMD, the project shall include the following design features and on-site measures to reduce operational energy emissions: i. *Building electrification:* Consistent with the Tier 1 BMPs and the City of Sacramento's recently adopted ordinance significantly limiting natural gas infrastructure in all new construction, all buildings other than the CNU Medical Center shall be designed to be 100 percent electric and to not include any natural gas appliances, including water heaters, clothes washers and dryers, HVAC systems, and stoves. ii. *On-site measures to offset CNU Medical Center Natural Gas Combustion GHG Emissions:* a. Install on-site roof-top solar PV panels or other on-site renewable energy on all buildings including the CNU Medical Center, subject to space availability. b. Implement an all-electric food service facility where feasible. c. Use electric process equipment for pharmaceutical manufacturing where feasible. d. The CNU Medical Center hospital building shall be constructed to achieve Leadership in Energy and Environmental Design (LEED) Gold certification.	LTS

6 Currently, CARB-approved GHG offset registries include the Climate Action Reserve, the American Carbon Registry, and Verra (previously, Verified Carbon Standard).

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		ii. *Electric vehicle ready:* Consistent with the SMAQMD Tier 1 BMPs and the City's recently adopted EV charging ordinance, the project shall meet the CALGreen Tier 2 standards for EV charging infrastructure, except all EV capable spaces shall instead be EV ready.[7] a. At least 20 percent of residential parking spaces and 10 percent of non-residential parking spaces will be EV ready. b. At least 22 percent of parking spaces will be dedicated to any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles.	
		Mitigation Measure 4.6-2b: Purchase of Carbon Offsets for Natural Gas Combustion GHG Emissions. If full implementation of Mitigation Measure 4.6-2a is determined by the project applicant(s) and verified by the City as infeasible, prior to the commencement of the project operations, the project applicant(s) shall provide documentation that includes a licensed engineer's estimate of the average annual natural gas combustion CO_2e emissions that have been deemed to be essential to operations due to infeasibility of electrification for certain components of the project for City review and approval. The documentation shall include verification of purchase and retirement of credits to offset the natural gas combustion GHG emissions to net zero for each year of operations during the 40-year life of the project, using verified carbon offset credits. The carbon offset credits shall be from a registry approved by CARB, and be quantified and verified using protocols that are consistent with the criteria identified in the California Code of Regulations, title 17, section 95972 – namely that they be real; permanent; quantifiable; verifiable; additional as defined by Health and Safety Code section 38562, subdivisions(d)(1) and (d)(2) and California Code of Regulations, title 17, section 95802, subdivision (a); and enforceable. In addition, any offsets originating outside California must have GHG emissions programs equivalent to, or more stringent than, California's cap and trade program. Within 120 days of City approval of the documented emissions estimates, the project applicant(s) shall provide evidence to the City that carbon offset credits have been purchased and retired for the purpose of offsetting the City-approved emissions estimates for the 40-year life of the project.	
		Mitigation Measure 4.6-2c: Compliance with Qualified Climate Action Plan. As an alternative to implementation of Mitigation Measures 4.6-2a and/or 4.6-2b, if an occupancy permit application for a project within the Innovation Park PUD area is submitted subsequent to the adoption of a City of Sacramento Climate Action Plan (CAP), which meets the requirements of CEQA Section 15183.5b, for tiering and streamlining the analysis of GHG emissions (i.e., CEQA-qualified GHG reduction plan), that project shall be designed, constructed, and operated in compliance with the CAP. The City shall document such compliance in written findings prior to the issuance of the building permit. To substantiate that the project construction complies with the requirements of the CAP, the applicant(s) shall provide the City with an analysis prepared by a qualified expert that identifies the requirements specified in the CAP that apply to construction of the project and, if those requirements are not otherwise binding and enforceable, the applicant(s) shall commit to incorporating those requirements as part of the project. Documentation of incorporation of requirements shall be submitted to the City and approved by the City prior to the commencement of operations.	

[7] For the purposes of this Draft EIR, "EV ready" shall mean installation of parking spaces as defined by CALGreen Section 5.106.5.3.2, plus the installation of an electrical junction box or charging outlet at charging site.

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 4.6-3: Operation of the CNU Medical Center Central Plant stationary sources could generate direct GHG emissions that may have a significant impact on the environment.	LTS	None required.	N/A
Impact 4.6-4: Implementation of the proposed project could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gas emissions.	S	**Mitigation Measure 4.6-1a: Implement SMAQMD BMPs for Reducing Construction Emissions.** **Mitigation Measure 4.6-1b: Carbon Offsets for GHG Construction Emissions.** **Mitigation Measure 4.6-1c: Compliance with Qualified Climate Action Plan.** **Mitigation Measure 4.6-2a: Implement SMAQMD's Tier 1 BMPs.** **Mitigation Measure 4.6-2b: Purchase of Carbon Offsets for Natural Gas Combustion GHG Emissions.** **Mitigation Measure 4.6-2c: Compliance with Qualified Climate Action Plan.** See Impacts 4.6-1 and 4.6-2, above, for the text of these mitigation measures.	LTS
4.7 Hazards			
Impact 4.7-1: The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, disposal, or accidental release of hazardous materials.	S	**Mitigation Measure 4.7-1(a) (PUD, CNU): Conduct Phase I Environmental Site Assessment.** Before the start of ground-disturbing activities, including grading, trenching, or excavation, the project applicant shall conduct a Phase I Environmental Site Assessment in accordance with American Society of Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM E1527), 40 Code of Federal Regulations (CFR) Section 312.1, *Purpose, Applicability, Scope and Disclosure Obligations*. The purpose of the Phase I assessment is to identify Recognized Environmental Conditions (RECs), as defined in the ASTM standard. The Phase I assessment shall include the following: • A review of governmental records to check for hazardous materials spills, releases, or violations that could affect the use of the property. • A site inspection to visually check for RECs. • An interview of key personnel with knowledge of the historical and current uses of the property. • A report documenting the findings, identifying any data gasps that affect the identification of RECs, and recommendations for further actions, as needed (e.g., sampling of onsite soil).	LTS
		Mitigation Measure 4.7-1(b) (PUD, CNU): Prepare and Implement Health and Safety Plan. Before the start of ground-disturbing activities, including grading, trenching, or excavation, the project applicant shall require that the construction contractor(s) retain a qualified professional to prepare a site-specific health and safety plan (HASP) in accordance with regulations of the U.S. Occupational Safety and Health Administration (OSHA) (Code of Federal Regulations [CFR] Title 29, Section 1910.120 [29 CFR 1910.120]) and the California Occupational Safety and Health Administration (Cal/OSHA) (8 CCR Section 5192).	

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		The HASP shall be implemented by the construction contractor to protect construction workers, the public, and the environment during all ground-disturbing activities. HASPs shall be submitted to the Sacramento County Environmental Management Department (SCEMD) for review and approval, and any other applicable oversight regulatory agency for review before the start of construction activities and as a condition of the grading and/or construction permit(s). The HASP shall include, but not be limited to, the following elements: • Designation of a trained, experienced site safety and health supervisor who has the responsibility and authority to implement the site HASP. • A summary of all potential risks to demolition and construction workers and maximum exposure limits for all known and reasonably foreseeable site chemicals. These would include the OSHA and Cal/OSHA Permissible Exposure Limits, available at Permissible Exposure Limits—Annotated Tables (https://www.osha.gov/annotated-pels). • Specified personal protective equipment and decontamination procedures according to OSHA standards, if needed. • The requirement to prepare documentation showing that HASP measures have been implemented during construction (e.g., tailgate safety meeting notes with a signup sheet for attendees). • A requirement specifying that any site worker who identifies hazardous materials has the authority to stop work and notify the site's safety and health supervisor. • Emergency procedures, including the route to the nearest hospital. • Procedures to follow if evidence of potential soil contamination is encountered (such as soil staining, noxious odors, debris, or buried storage containers). These procedures shall be followed in accordance with hazardous waste operations regulations and specifically include, but not be limited to, immediately stopping work in the vicinity of the unknown hazardous materials release; notifying SCEMD; and retaining a qualified environmental firm to perform sampling and remediation. The remediation (i.e., cleanup) would be to existing regulatory action levels (e.g., ESLs and RSLs; see Section 4.7.1 *Environmental Setting, Hazardous Materials* for summary of regulatory action levels) acceptable to the overseeing regulatory agency (DTSC, RWQCB, or SCEMD depending on which agency has jurisdiction).	
		Mitigation Measure 4.7-1(c) (PUD, CNU): Develop and Implement Site Management Plan. In support of the health and safety plan described in Mitigation Measure 4.7-1(b), the project applicant for the specific work proposed shall develop and require that its contractor(s) develop and implement a site management plan (SMP) for the management of soil and groundwater before any ground-disturbing activity. The SMP may be prepared for the entire project area, for groups of parcels, or for individual parcels. In any case, all such parcels shall be covered by such a plan. Each SMP shall include the following, at a minimum: • Site description, including the hazardous materials that may be encountered. • Roles and responsibilities of on-site workers, supervisors, and the regulatory agency. • Training for site workers focused on the recognition of and response to encountering hazardous materials (see Section 4.7.1, *Environmental Setting, Hazardous Materials* for summary of regulatory action levels). • Protocols for the testing, handling, removal, transport, and disposal of all excavated soil and dewatering effluent in a safe, appropriate, and lawful manner. • Reporting requirement to SCEMD, documenting that site activities were conducted in accordance with the SMP.	

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		SMPs for parcels with soil or groundwater containing chemicals above environmental screening levels for the proposed land use shall be submitted to the regulatory agency with jurisdiction (i.e., California Department of Toxic Substances Control, Central Valley Regional Water Quality Control Board, or SCEMD) for review as a condition of the grading and/or construction permit(s). The contract specifications shall mandate full compliance with all applicable federal, state, and local regulations related to the identification, transportation, and disposal of hazardous materials. Regulatory environmental screening levels include the ESLs and RSLs. For work that would encounter groundwater, contractors shall include a groundwater dewatering control and disposal plan in the SMP, specifying how groundwater (dewatering effluent) will be handled and disposed of in a safe, appropriate, and lawful manner, should any be encountered. The groundwater portion of the SMPs shall include the following information, at a minimum: • The locations at which groundwater dewatering is likely to be required. • Testing methods to analyze groundwater for hazardous materials. • Appropriate treatment and/or disposal methods. • A discussion of discharge to a publicly owned treatment works or the stormwater system, in accordance with any regulatory requirements the treatment works may have, if this effluent disposal option is to be used.	
Impact 4.7-2: The proposed project could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	LTS	None required.	LTS
Impact 4.7-3: The proposed project is within the Airport Influence Area of Sacramento International Airport but would not result in a safety hazard for people residing or working in the area.	LTS	None required.	N/A
Impact 4.7-4: The proposed project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	S	**Mitigation Measure 4.10-5 (PUD, CNU): Implement Construction Traffic Control Plan.** See Section 4.10, *Transportation and Circulation*, Impact 4.10-7, for the text of this mitigation measure. This measure, which would be required as a condition of permitting, would manage the movement of vehicles. The construction traffic plan would include measures to ensure that traffic, including emergency vehicles, would be able to reach the residential and commercial properties that surround the project area.	LTS
Impact 4.7-5: The proposed project, in combination with other cumulative development, would not create a significant hazard to the public or the environment through the routine transport, use, disposal, or accidental release of hazardous materials.	S	**Mitigation Measure 4.7-1(a): Conduct Phase I Environmental Site Assessment.** **Mitigation Measure 4.7-1(b): Prepare and Implement Health and Safety Plan.** **Mitigation Measure 4.7-1(c): Develop and Implement Site Management Plan.** See Impact 4.7-1, above, for the text of these mitigation measures.	LTS

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TABLE S-5
SUMMARY OF IMPACTS AND MITIGATION MEASURES EVALUATED IN THE DRAFT EIR

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 4.7-6: The proposed project, in combination with other cumulative development, could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	LTS	None required.	N/A
Impact 4.7-7: The proposed project, in combination with other cumulative development within the Airport Influence Area of Sacramento International Airport, would not result in a safety hazard for people residing or working in the area.	LTS	None required.	N/A
Impact 4.7-8: The proposed project, could, in combination with other cumulative development, impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	S	**Mitigation Measure 4.10-5: Implement Construction Traffic Control Plan.** See Section 4.10, *Transportation and Circulation*, Impact 4.10-7, for the text of this mitigation measure. Under this measure, a construction traffic plan would be implemented to manage the movement of construction vehicles. The construction traffic plan would include measures to ensure that traffic, including emergency vehicles, would be able to reach the residential and commercial properties that surround the project area. Cumulative projects that close or restrict traffic lanes would also be required to prepare and implement traffic control plans as a condition of permitting.	LTS
4.8 Noise and Vibration			
Impact 4.8-1: Construction activities for the proposed project would result in substantial temporary or periodic increases in ambient noise levels in the area.	S	**Mitigation Measure 4.8-1(a): Prepare and Implement Construction Noise Reduction Plan.** Applicants for individual projects proposed under the Innovation Park PUD shall require construction and demolition contractors to prepare and implement a construction noise reduction plan, to be included in all grading, demolition, and construction plans, that implements the following construction noise reduction measures during demolition, grading, and construction activities. These plans shall be submitted to the City of Sacramento Planning Department to be included either as Conditions of Approval (COA) or in a Mitigation Monitoring and Reporting Program (MMRP): 1. Consistent with Section 8.68.080 of the City of Sacramento Noise Control Ordinance, construction and demolition activities shall occur only between 7:00 a.m. and 6:00 p.m. Monday through Saturday and between 9:00 a.m. and 6:00 p.m. on Sundays. 2. Any demolition and construction activity proposed to occur outside of the designated hours listed above shall be evaluated on a case-by-case basis and shall only be allowed with the prior written authorization of the City's Building Services Division. Such activities shall not exceed a period of three days. 3. All equipment and trucks used for demolition and construction shall be equipped with the best available noise control techniques (e.g., improved mufflers, redesigned equipment, intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds).	LTS

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		4. Impact tools (e.g., jackhammers, pavement breakers, and rock drills) used for demolition and construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible; this could achieve a reduction of 5 dBA. 5. Stationary noise sources shall be located as far from adjacent receptors as possible and shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or include other measures. 6. Temporary noise barriers or shielding shall be erected for construction work involving heavy-duty construction equipment if the other noise reduction methods are not effective or possible and if occurring within 300 feet of receptors for an extended period of time (more than two weeks). 7. Advance notice shall be provided to all noise sensitive receptors located within 300 feet of demolition and construction activities by mail at least fourteen days before the beginning of construction activity. Notice will include the approximate start date and duration of construction activities. 8. Noise-reducing pile installation techniques shall be employed during construction for projects requiring installation of piles. These techniques shall include: • Installing cast-in-place concrete piles. Noise from auger drilling is 17 dBA less than noise from an impact pile driver. • Vibrating piles into place and installing shrouds around the pile-driving hammer where feasible. • Installing intake and exhaust mufflers on pile-driving equipment. • Implementing “quiet” pile-driving technology (such as pre-drilling piles and using more than one pile driver to shorten the total duration of pile driving). • Using cushion blocks to dampen impact noise. Cushion blocks are blocks of material that are used with impact hammer pile drivers. They consist of blocks of material placed atop a piling during installation to minimize noise generated when driving the pile. Materials typically used for cushion blocks include wood, nylon, and micarta (a composite material).	
		Mitigation Measure 4.8-1(b): Implement Measures to Reduce Noise Impacts from Arena Implosion. If implosion is chosen as the method for demolishing the Sleep Train Arena building, the construction noise reduction plan discussed in Mitigation Measure 4.8-1(a) shall include measures to reduce noise impacts from implosion on receptors in the vicinity. Measures shall include but not be limited to the following: 1. A detailed project-specific study shall be conducted that assesses the impacts of imploding the arena, including safety, air quality, noise, vibration, and seismic impacts, based on the size of the arena and the amount of explosives used. An independent third-party engineering consultant that specializes in seismic monitoring shall measure ground vibration levels on the day of the event to verify that the implosion goes as planned. 2. An adequate exclusion zone around the arena, as determined by the project-specific feasibility study mentioned above, shall be demarked and maintained for as long as safety requirements warrant before and after the implosion.	

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SUMMARY OF IMPACTS AND MITIGATION MEASURES EVALUATED IN THE DRAFT EIR

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		3. All land uses within the exclusion zone shall be notified by mail 30 days in advance of the planned implosion, with reminders sent out a week before. Notifications shall include the date and time of the planned implosion, the extent of the exclusion zone, information on street closures, and the amount of time the exclusion zone and street closures will be maintained. Occupants of land uses within the exclusion zone shall be advised to stay indoors with windows and doors closed for the duration of the implosion. 4. The same information shall also be posted as signs around the project area boundary, along with the name and telephone number of a complaint coordinator to contact with questions and complaints. 5. Transportation and temporary relocation to a to-be-determined site shall be provided to sensitive receptors located within 0.25 miles of the arena building. Sensitive receptors will be returned to their original locations following completion of the planned implosion.	
Impact 4.8-2: Construction activities for the proposed project could expose persons to or generate excessive groundborne noise or groundborne vibration levels.	S	**Mitigation Measure 4.8-1(b): Implement Measures to Reduce Noise Impacts from Arena Implosion.** See Impact 4.8-1, above, for the text of this mitigation measure.	LTS
		Mitigation Measure 4.8-2: Prepare and Implement Construction Vibration Management Plan. Before any extreme vibration-generating construction activities (e.g., impact pile driving, vibratory pile driving, and other activities generating vibration greater than 90 VdB), CNU and future developers under the PUD shall submit a construction vibration management plan prepared by a qualified acoustical consultant for City review and approval by the City of Sacramento Community Development Department that contains a set of site-specific attenuation measures or engineering alternatives to reduce construction impacts associated with extreme vibration generating activities to 80 VdB or less at the nearest residences or sensitive receptors. CNU shall require its construction contractor(s) to implement the approved plan during construction. Potential measures include, but are not limited to, the following: 1. Implementing “alternative” pile installation technology that also reduces vibration (such as pre-drilling of piles), where feasible, in consideration of geotechnical and structural requirements and conditions. 2 Installing cast-in-place concrete piles. 3. Vibrating piles into place where feasible. 4. Notifying property owners and occupants located within 300 feet of the construction activities at least 14 calendar days before the start of extreme noise- and vibration-generating activities. Before providing the notice, CNU shall submit to the City of Sacramento Community Development Department for review and approval a list of the proposed type and duration of extreme noise- and vibration-generating activities and the proposed public notice. The public notice shall provide the estimated start and end dates of the extreme noise- and vibration-generating activities and describe the attenuation measures to be implemented.	

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SUMMARY OF IMPACTS AND MITIGATION MEASURES EVALUATED IN THE DRAFT EIR

Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 4.8-3: The increase in traffic associated with development allowed under the proposed project would increase roadside noise levels in the area.	S	**Mitigation Measure 4.8-3: Construct Noise Barriers, Incorporate Noise Reduction Measures at Residences, and Install Traffic Calming Measures.** Individual projects proposed under the proposed Innovation Park PUD and the proposed student housing of the CNU shall undergo further review as they are proposed for development. As stated in Section 2.4.3, the proposed Innovation Park PUD requires a site plan and design review process that would ensure that future development projects are consistent with the goals, policies, objectives, and other provisions of the Innovation Park PUD if future traffic noise levels at noise-sensitive land uses along roadway segments would be significantly affected by project traffic, one or more of the following measures shall be considered to maintain an exterior performance standard of 65 dBA for outdoor gathering spaces of multi-family uses: 1. Construct noise barriers (walls and/or berms) to reduce traffic noise levels at noise-sensitive land uses that are found to be significantly affected by traffic noise. 2. For dwelling units that would be exposed to traffic noise levels exceeding 65 dBA L_{dn}, prohibit outdoor living areas such as balconies or decks on the side of the buildings exposed to high traffic noise. Alternatively, noise mitigation measures, such as barrier walls with a minimum height of 5 feet with adequate materials (wood, Plexiglas) with no holes or gaps, along the perimeter of the outdoor living areas can provide necessary noise reductions. 3. For proposed dwelling units that would be exposed to traffic noise levels exceeding 69 dBA CNEL, require building façade upgrades for windows associated with bedrooms and living/family rooms on the side of the buildings exposed to high traffic noise. Examples of such upgrades include using windows with Sound Transmission Class (STC) ratings higher than standard building practice (up to STC-28). 4. Install traffic calming measures along affected low-volume roadways to reduce future traffic speeds.	SU
Impact 4.8-4: Stationary sources and operational activities associated with development allowed under the proposed project would result in substantial permanent increases in ambient noise levels in the area.	S	**Mitigation Measure 4.8-4**: **Implement Measures to Reduce Noise Levels from HVAC Units, Generators, and Loading Docks.** For development of new commercial or mixed-use buildings within the Innovation Park PUD area, applicants of individual projects allowed under the proposed project shall demonstrate that noise levels from HVAC units, generators, and/or loading docks would not exceed the stationary noise standards established in the Sacramento City Code: 60 dBA L_{dn} at the property line of single-family residential uses or 65 dBA at the property line of multi-family residential uses. To demonstrate that a proposed development will meet the City's stationary noise standards, the developer must implement the following measures: 1. The proposed land uses shall be designed so that on-site mechanical equipment (e.g., HVAC units, compressors, generators) and area-source operations (e.g., loading docks, parking lots, and recreational-use areas) are located as far as possible, enclosed, or shielded from nearby noise-sensitive land uses to meet City noise standards. 2. Noise-generating stationary equipment associated with proposed commercial and/or office uses, including portable generators, compressors, and compactors, shall be enclosed or acoustically shielded to reduce noise-related impacts on noise-sensitive residential uses. Acoustical enclosures around stationary equipment offer typical noise reductions of 20–35 dBA.[8]	SU

[8] Kinetics Noise Control. 2021. Noiseblock Acoustical Enclosures. Available: https://kineticsnoise.com/noiseblock/acoustic_enclosures.html. Accessed August 13, 2021.

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
		3. Before a building permit is issued for any individual project allowed under the Innovation Park PUD, the applicant for the project shall submit engineering and acoustical specifications for the project's mechanical HVAC equipment and the proposed locations of on-site loading docks to the City's Planning Division. The applicant shall retain a qualified acoustical engineer to demonstrate that the design of HVAC equipment and loading dock design (types, location, enclosure, specification) will ensure that noise from the equipment is consistent with the restrictions of Section 8.68.060 of the Sacramento City Code. 4. Truck deliveries in commercial uses shall be limited to 7:00 a.m. to 10:00 p.m. unless site-specific analysis identifies no impacts on sensitive receptors. 5. Commercial loading docks located within 300 feet of existing or proposed residences shall be positioned in areas shielded from view of adjacent noise-sensitive uses by intervening commercial buildings. 6. Solid noise barriers shall be constructed at the boundary of the commercial uses with loading docks of sufficient height to intercept line of sight between heavy trucks and the affected area of the noise-sensitive uses. 7. Signs shall be posted limiting the idling of delivery trucks to 10 minutes or less.	
Impact 4.8-5: Noise generated by helicopter landings and takeoffs at the helipad on the roof of the proposed CNU Medical Center's hospital would expose off-site residential land uses to single-event noise exposure levels that would awaken more than 5 percent of people from sleep.	S	None available.	SU
Impact 4.8-6: The proposed project could result in exposure of people residing or working in the project area to excessive noise levels from aircraft activity within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public or private use airport.	LTS	None required.	N/A
Impact 4.8-7: Construction activities for the proposed project, in combination with the construction of other cumulative development, could cause a substantial temporary or periodic increase in ambient noise levels in the area.	S	**Mitigation Measure 4.8-1(a): Prepare and Implement Construction Noise Reduction Plan.** See Impact 4.8-1, above, for the text of this mitigation measure.	SU
Impact 4.8-8: Construction activities for the proposed project, in combination with the construction of other cumulative development, could expose persons to or generate excessive groundborne noise or groundborne vibration levels.	S	**Mitigation Measure 4.8-1(b): Implement Measures to Reduce Noise Impacts from Arena Implosion.** **Mitigation Measure 4.8-2: Prepare and Implement Construction Vibration Management Plan.** See Impacts 4.8-1 and 4.8-2, above, for the text of these mitigation measures.	LTS

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 4.8-9: Traffic associated with the proposed project, in combination with traffic from other cumulative development, would increase roadside noise levels in the area.	S	**Mitigation Measure 4.8-3: Construct Noise Barriers, Incorporate Noise Reduction Measures at Residences, and Install Traffic Calming Measures.** See Impact 4.8-3, above, for the text of this mitigation measure.	SU
Impact 4.8-10: Stationary sources and operational activities associated with the proposed project, in combination with operational noise from other cumulative development, could result in substantial permanent increases in cumulative noise levels in the area.	S	**Mitigation Measure 4.8-4: Implement Measures to Reduce Noise Levels from HVAC Units, Generators, and Loading Docks.** See Impact 4.8-4, above, for the text of this mitigation measure.	LTS
4.9 Public Services			
Police Protection			
Impact 4.9-1: Implementation of the proposed project could result in adverse environmental effects related to the construction of new or expansion of existing police facilities as a result of increased demand for police protection services within the city of Sacramento.	LTS	None required.	N/A
Impact 4.9-2: Implementation of the proposed project, in combination with other development, could result in the need for construction of additional or expansion of existing police facilities to accommodate a potential increase in cumulative demand for police protection services within the city of Sacramento.	LTS	None required.	N/A
Fire Protection			
Impact 4.9-3: Implementation of the proposed project could result in adverse environmental effects related to the construction of new or expansion of existing fire protection facilities as a result of increased demand for fire protection services within the city of Sacramento.	LTS	None required.	N/A

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 4.9-4: Implementation of the proposed project, in combination with other development, could result in the need for construction of additional or expansion of existing fire protection facilities to accommodate a potential increase in cumulative demand for fire protection services within the city of Sacramento.	LTS	None required.	N/A
Public Schools			
Impact 4.9-5: Implementation of the proposed project could result in adverse environmental effects related to the construction of new or expansion of existing public school facilities as a result of increased demand for public school services within the city of Sacramento.	LTS	None required.	N/A
Impact 4.9-6: Implementation of the proposed project, in conjunction with other development, could result in the provision of or need for increased demand for public school services within the city of Sacramento.	LTS	None required.	N/A
Parks and Open Space			
Impact 4.9-7: Implementation of the proposed project could cause or accelerate the physical deterioration of existing parks or recreational facilities or create a need for construction or expansion of recreational facilities beyond what was anticipated in the General Plan.	S	**Mitigation Measure 4.9-7 (PUD): Comply with Quimby Act and Park Impact Fee Ordinances.** The proposed project shall comply with the City of Sacramento's Quimby Act and Park Impact Fee ordinances.	LTS
Impact 4.9-8: Implementation of the proposed project, in conjunction with other development, could result in the provision of or need for increased demand for parks and recreational resources and facilities.	S	**Mitigation Measure 4.9-8: Comply with Quimby Act and Park Impact Fee Ordinances**. See Impact 4.9-7, above, for the text of this mitigation measure.	LTS

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
4.10 Transportation and Circulation			
Impact 4.10-1: The proposed project's VMT per capita (residents and employment) could exceed 85 percent of the existing average for the SACOG region.	LTS	None required.	N/A
Impact 4.10-2: Implementation of the proposed project could adversely affect the existing or planned bicycle or pedestrian facilities or could fail to adequately provide for access by bicycles or pedestrians.	LTS	None required.	N/A
Impact 4.10-3: Implementation of the proposed project could adversely affect public transit operations and could fail to adequately provide access to transit.	S	**Mitigation Measure 4.10-3 (PUD, CNU): Implement Measures to Provide Transit Access.** The applicants for individual projects proposed under the Innovation Park PUD shall coordinate with SacRT (or other transit operators) to plan, fund, and implement transit facilities that would support access to transit services provided by SacRT, or other transit agencies, which facilities may include, but are not limited to, right of way for transit stops, bus stops/shelters, pedestrian and bicycle network connections to transit stop locations. Transit facilities shall be phased with the development of the project.	LTS
Impact 4.10-4: Implementation of the proposed project could result either in off-ramp queuing at freeway facilities that is greater than the storage capacity or in on-ramp queuing for metered on-ramps that is greater than the storage capacity.	LTS	None required.	N/A
Impact 4.10-5: Implementation of the proposed project could cause inconveniences to motorists as a result of prolonged road closures and could result in an increased frequency of potential conflicts between vehicles, pedestrians, and bicyclists due to construction-related traffic impacts.	S	**Mitigation Measure 4.10-5 (PUD, CNU): Implement Construction Traffic Control Plan.** Before the beginning of construction, the applicants for individual projects proposed under the Innovation Park PUD shall prepare a construction traffic plan that complies with Sacramento City Codes § 12.20.020, § 12.20.030, and is prepared to the satisfaction of the City's Department of Public Works and subject to review by all affected agencies as identified by the City. The plan shall ensure that acceptable operating conditions on roadways, bicycle and pedestrian facilities, and transit facilities are maintained. At a minimum, the plan shall include the following elements: • Description of trucks: Number and size of trucks per day, expected arrival/departure times, and truck circulation patterns which do not substantially conflict with Sacramento General Plan, Mobility Element Policies M 7.1.5 and M 7.1.6. • Description of staging area: Location, maximum number of trucks simultaneously permitted in the staging area, use of traffic control personnel, and specific signage. • Description of street closures and/or bicycle and pedestrian facility closures: Duration, advance warning and posted signage, safe and efficient access routes for emergency vehicles, and use of manual traffic control, subject to approval by the city traffic engineer per Sacramento City Code § 10.09.090. • Description of access plan: Provisions for safe vehicular, pedestrian, and bicycle travel; minimum distance from any open trench; special signage; and private vehicle accesses. • Provisions for parking for construction workers.	LTS

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 4.10-6: Implementation of the proposed project, in combination with other development, could contribute to cumulative conditions where VMT per capita or VMT per employee could exceed 85 percent of the existing corresponding averages for the SACOG region.	LTS	None required.	N/A
Impact 4.10-7: Implementation of the proposed project and cumulative development could adversely affect the existing or planned bicycle or pedestrian facilities or could fail to adequately provide for access by bicycles or pedestrians.	LTS	None required.	N/A
Impact 4.10-8: Implementation of the proposed project and cumulative development could adversely affect public transit operations and could fail to adequately provide access to transit.	S	**Mitigation Measure 4.10-3 (PUD, CNU): Implement Measures to Provide Transit Access.** See Impact 4.10-3, above, for the text of this mitigation measure.	LTS
Impact 4.10-9: Implementation of the proposed project and cumulative development could result either in off-ramp queuing at freeway facilities that is greater than the storage capacity or in on-ramp queuing for metered on-ramps that is greater than the storage capacity.	LTS	None required.	N/A
Impact 4.10-10: Implementation of the proposed project along with cumulative development could cause inconveniences to motorists as a result of prolonged road closures and could result in an increased frequency of potential conflicts between vehicles, pedestrians, and bicyclists due to construction-related traffic impacts.	S	**Mitigation Measure 4.10-5 (PUD, CNU): Implement Construction Traffic Control Plan.** See Impact 4.10-5, above, for the text of this mitigation measure.	LTS

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
4.11 Utilities and Service Systems			
Water Supply			
Impact 4.11-1: The City would have the potential to have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.	LTS	None required.	N/A
Impact 4.11-2: Implementation of the proposed project would have the potential to require or result in the construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.	LTS	None required.	N/A
Impact 4.11-3: Under cumulative conditions, the City would have the potential to have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.	LTS	None required.	N/A
Impact 4.11-4: Implementation of the proposed project, in combination with other development, would have the potential to require or result in the construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.	LTS	None required.	N/A
Wastewater			
Impact 4.11-5: Implementation of the proposed project would have the potential to result in a determination by the local wastewater treatment provider that it does not have adequate capacity to serve the project's projected demand in addition to its existing commitments.	LTS	None required.	N/A

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 4.11-6: Implementation of the proposed project would have the potential to require or result in the construction of new or expanded wastewater conveyance facilities, the construction or relocation of which could cause significant environmental effects.	LTS	None required.	N/A
Impact 4.11-7: Implementation of the proposed project, in combination with other development, would have the potential to result in a determination by the local wastewater treatment provider that it does not have adequate capacity to serve the cumulative demand in addition to the provider's existing commitments.	LTS	None required.	N/A
Impact 4.11-8: Implementation of the proposed project, in combination with other development, would have the potential to require or result in the construction of new or expanded wastewater conveyance facilities, the construction or relocation of which could cause significant environmental effects.	LTS	None required.	N/A
Storm Drainage			
Impact 4.11-9: Implementation of the proposed project would have the potential to require or result in the construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects.	LTS	None required.	N/A
Impact 4.11-10: Implementation of the proposed project, in combination with other development, would have the potential to require or result in the construction of new or expanded stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects	LTS	None required.	N/A

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Solid Waste			
Impact 4.11-11: The proposed project would have the potential to generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.	LTS	None required.	N/A
Impact 4.11-12: Implementation of the proposed project, in combination with other development, would have the potential to generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or to otherwise impair the attainment of solid waste reduction goals.	LTS	None required.	N/A
Electricity, Natural Gas, and Telecommunications			
Impact 4.11-13: Implementation of the proposed project would have the potential to require or result in the construction of new or expanded energy transmission or distribution facilities, the construction or relocation of which could cause significant environmental effects.	LTS	None required.	N/A
Impact 4.11-14: Implementation of the proposed project would have the potential to require or result in the construction of new or expanded telecommunications facilities, the construction or relocation of which could cause significant environmental effects.	LTS	None required.	N/A
Impact 4.11-15: Implementation of the proposed project, in combination with other development, would have the potential to require or result in the construction of new or expanded energy transmission or distribution facilities, the construction or relocation of which could cause significant environmental effects.	LTS	None required.	N/A

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Impact	Significance Before Mitigation	Mitigation Measure	Significance After Mitigation
Impact 4.11-16: Implementation of the proposed project, in combination with other development, would have the potential to require or result in the construction of new or expanded telecommunications facilities, the construction or relocation of which could cause significant environmental effects.	LTS	None required.	N/A

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CHAPTER 1
Introduction

Sacramento Basketball Holdings, LLC (project applicant) proposes the Innovation Park Planned Unit Development (Innovation Park PUD) project, which would update the zoning designation and adopt design guidelines in a planned unit development (PUD) that would facilitate redevelopment of the Sleep Train Arena site in the North Natomas community in the city of Sacramento. The Innovation Park PUD area is referred to herein as the *project area.*

In the southwest portion of the project area, California Northstate University (CNU) proposes to develop a new medical center campus on approximately 35 acres. The proposed CNU Medical Center would include a hospital complex that would provide inpatient, outpatient, and emergency and other medical services in the Sacramento region, as well as medical education and other uses that would complement the medical and educational functions of the campus.

The proposed Innovation Park PUD and the CNU Medical Center are together referred to herein as the *proposed project.* For a detailed description of and exhibits depicting the proposed project, see Chapter 2, *Project Description*.

This environmental impact report (EIR) has been prepared by the City of Sacramento (City) pursuant to the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et seq.) and the CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations) to describe the potential environmental consequences of implementing the proposed Innovation Park PUD, including the proposed CNU Medical Center. As required under CEQA, the EIR evaluates and describes potentially significant environmental impacts, identifies mitigation measures to avoid or reduce the significance of potential impacts, and evaluates the comparative effects of potentially feasible alternatives to the proposed project.

1.1 Background

The project area is located in North Natomas and encompasses a total of 183.7 acres. This area currently includes the Sleep Train Arena building, the former Sacramento Kings practice facility, parking areas surrounding the arena building, and partially and fully undeveloped areas north of the arena building and the parking areas.

Pursuant to an agreement between the Sacramento Kings and the City, Sleep Train Arena no longer operates as a sports and entertainment venue, and the building is currently not in active use. Since 2016 there has been very limited activity on-site associated with operation of the Sacramento Kings, as the Kings have moved all basketball operations and the majority of

corporate operations to facilities at the Golden 1 Center and the Downtown Commons development in Downtown Sacramento.

CNU is a private educational institution that operates two physical locations in the region. CNU's Elk Grove campus includes a College of Medicine, College of Pharmacy, College of Dental Medicine, and 15,000-square-foot event center. CNU also operates a second campus at 2910 Prospect Park Drive in Rancho Cordova, which accommodates CNU's College of Health Sciences. These uses may be relocated, in whole or in part, as part of CNU's proposal to provide emergency and other medical services in the Sacramento region through development of a hospital and medical campus in the project area.

1.2 Purpose and Use of this EIR

CEQA states that before a decision can be made to approve a project that would pose potential adverse physical effects, an EIR must be prepared that fully describes the environmental effects of the project. The EIR is a public information document that identifies and evaluates the potential environmental impacts of a project, recommends mitigation measures to lessen or eliminate significant adverse impacts, and examines feasible alternatives to the project. The information contained in the EIR must be reviewed and considered by the CEQA lead agency (in this case, the City of Sacramento) and by any responsible agencies (as defined in CEQA) before a decision to approve, disapprove, or modify the proposed project. This EIR has been prepared by the City of Sacramento's Community Development Department, located at 300 Richards Boulevard, Third Floor, Sacramento, CA 95811.

1.3 CEQA Environmental Review

The CEQA Guidelines define the role and standards of adequacy of an EIR as follows:

- **Informational Document.** An EIR is an informational document that will inform public agency decision-makers and the public generally of the significant environmental effect(s) of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project. The public agency shall consider the information in the EIR along with other information that may be presented to the agency (see CEQA Guidelines Section 15121[a]).

- **Standards for Adequacy of an EIR.** An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information that enables them to make a decision that intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good-faith effort at full disclosure (see CEQA Guidelines Section 15151).

CEQA Guidelines Section 15382 defines a *significant effect on the environment* as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project…" Therefore, in identifying the significant impacts of the project, this EIR

describes the potential for the construction and operation of the proposed Innovation Park PUD, including the CNU Medical Center, to result in substantial physical effects in the area affected by the project, and identifies mitigation measures that would avoid or reduce the magnitude of those effects. See Section 4.0, *Introduction to the Analysis*, in Chapter 4 for further description of the approach to analyzing environmental impacts and identifying mitigation measures presented in this EIR.

The California Court of Appeal has addressed the question of how to properly identify the "type" of EIR that should be prepared for a project. In noting that there are many different names for EIRs, the court stated that "courts strive to avoid attaching too much significance to titles in ascertaining whether a legally adequate EIR has been prepared for a particular project." (*Citizens for a Sustainable Treasure Island v. City and County of San Francisco* (2014) 227 Cal. App. 4th 1036, 1048 (*Treasure Island*).) In the *Treasure Island* case, the court restated its findings from *California Oak Foundation v. Regents of University of California* (2010) 188 Cal.App.4th 227, 271, fn. 25) that the "fact that this EIR is labeled a 'project' rather than a 'program' EIR matters little for purposes of its sufficiency as an informative document. 'The level of specificity of an EIR is determined by the nature of the project and the "rule of reason" [citation], rather than any semantic label accorded to the EIR.'"

The analyses of the proposed Innovation Park PUD considered in this EIR do not include a project level of specificity with regard to future development in the Innovation Park PUD area. As a planned unit development, the proposed Innovation Park PUD establishes the regulatory and policy framework for future development in the PUD area, and does not identify and/or describe specific projects. Other than the proposed CNU Medical Center, which is addressed specifically at a project level in the EIR, no particular developments are proposed at this time. This level of detail is commensurate with the level of detail provided in the requested approvals, which include amendments to the Sacramento 2035 General Plan and a rezone, tentative master parcel map, design guidelines, schematic plan, mixed-income housing strategy, finance plan, and a development agreement.

In addition to the approvals and entitlements granted through the approval of the proposed Innovation Park PUD, the description of future development analyzed in this EIR includes a conceptual site plan and potential land uses and intensities. By using a conceptual site plan and identifying reasonably foreseeable land uses and intensities, the City can analyze potential physical impacts based on a development envelope that could reasonably result from development pursuant to the proposed changes to entitlements, where such specific development details cannot be known with certainty at the present time. However, because of the conceptual nature of the project plan, the lack of precise design detail, and the basic level of entitlements sought, the City intends for future development proposals within the Innovation Park PUD area to undergo site plan and design review at a future date. In addition, some future development proposals within the Innovation Park PUD area are likely to require other discretionary approvals.

Because the CNU Medical Center is proposed as a specific project within the PUD area, this EIR includes a project-level analysis of potential impacts of the proposed hospital and related

facilities, and where potentially significant impacts are identified, describes potentially feasible mitigation measures that would avoid or reduce the severity of those impacts.

Other future development proposals within the Innovation Park PUD area would be subject to further environmental review under the requirements of CEQA, pursuant to CEQA Guidelines Section 15162, 15163, 15164, or 15168.

See Section 4.0, *Introduction to the Analysis*, in Chapter 4 for further description of the approach to analyzing environmental impacts and identifying mitigation measures presented in this EIR.

1.4 Environmental Review

1.4.1 Preliminary Project Evaluation

Having determined that an EIR would be required to evaluate changes in the environment that would result from construction and implementation of the proposed Innovation Park PUD, including the CNU Medical Center, the City elected not to prepare an Initial Study Checklist, as permitted by Section 15060(d) of the CEQA Guidelines.

1.4.2 EIR Scoping

On March 1, 2019, the City issued a Notice of Preparation (NOP) of the EIR to governmental agencies and organizations and persons interested in the proposed project (the NOP is included in Appendix A). The public review and comment period for the NOP was March 1, 2019, through April 2, 2019. The City sent the NOP to agencies with statutory responsibilities in connection with the proposed project and requested those agencies' input on the scope and content of the environmental information that should be addressed in the EIR. The City's Community Development Department held a scoping meeting on March 21, 2019, to solicit comments regarding the scope of the EIR in response to the NOP.

The City received comment letters regarding the scope of the EIR (see Appendix B), which included 12 comment letters from public agencies, five comment letters from organizations, and 280 comment letters from individuals or businesses. Although specific comments were provided in the NOP comment letters and are reflected in the specific technical sections of Chapter 4, the comments generally tended toward larger themes such as the following:

- The City should provide for the development of a new zoo or similar destination use (e.g., museum, aquarium, or family entertainment district) on the project site.
- The City should also consider a hospital, health sciences campus, or higher/vocational education campus for the site.
- The City should not allow for high-density housing on the project site.
- The City should not allow retail uses on the project site.
- The City should take into consideration impacts on the habitat of state and federally protected species and the relationship of the project site to the Natomas Basin Habitat Conservation Plan.

- The City should prioritize travel by walking, bicycling, and transit at the project site.
- The City should consider existing retail space vacancies in North Natomas in consideration of the inclusion of retail uses in the proposed project.
- The City should continue consultation with utility providers to ensure that the EIR addresses impacts related to the utility and infrastructure network and provision of service to the plan area.
- The reduction in residential density resulting from the proposed change in the project site's land use designation from Urban Center High to Urban Center Low could imperil the viability of the Sacramento Regional Transit light rail Green Line, planned to run adjacent to and through the project site. The transportation analysis should include an analysis of the impacts of the downzoning on City and regional transportation plans. The alternatives analysis should consider a scenario in which the project site retains a land use designation of Urban Center High.

The scope of this EIR includes environmental issues that have the potential to result in significant impacts, as determined through the City's staff-level initial evaluation; preparation of the NOP; responses to the NOP; scoping meeting feedback; and discussions among the public, consulting staff, other agencies, and the City of Sacramento. This evaluative process identified the need to consider the potential for significant impacts associated with the proposed Innovation Park PUD, including the CNU Medical Center, in the following technical areas:

- Aesthetics, Light, and Glare
- Air Quality
- Biological Resources
- Cultural and Tribal Cultural Resources
- Energy Demand and Conservation
- Global Climate Change
- Hazards and Hazardous Materials
- Noise and Vibration
- Public Services (Police, Fire, Schools, Parks, and Libraries)
- Transportation and Circulation
- Utilities and Service Systems (Water Supply, Wastewater, Storm Drainage, and Solid Waste)

In accordance with CEQA, this EIR evaluates the direct, indirect, and cumulative impacts that could result in these issue areas with buildout of the proposed project.

1.4.3 Public Review

The Draft EIR is available for public review and comment as set forth in the Notice of Availability circulated by the City. During the review and comment period, written comments (including email) regarding the Draft EIR may be submitted to the City at the address below.

Scott Johnson, Senior Planner
City of Sacramento, Community Development Department
Environmental Planning Services
300 Richards Boulevard, Third Floor
Sacramento, CA 95811
Email: srjohnson@cityofsacramento.org

The Draft EIR, Notice of Availability, and other supporting documents, such as technical reports prepared by the City as part of the EIR process, are available for public review at the offices of the Community Development Department at 300 Richards Boulevard, Third Floor, Sacramento, California 95811, at the City of Sacramento Central Library located at 828 I Street, Sacramento and on the City's website at http://www.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports.

1.4.4 Final EIR and EIR Certification

After the public review and comment period for the Draft EIR, the City will prepare responses addressing all substantive written and oral comments on the Draft EIR's environmental analyses that are received within the specified review period. The responses and any other revisions to the Draft EIR initiated by City staff will be prepared as a Final EIR document. The Draft EIR and its appendices, together with the Final EIR, will constitute the EIR for the proposed project.

1.4.5 Mitigation and Monitoring Plan

Throughout this EIR, mitigation measures are clearly identified, where applicable, and presented in language that will facilitate establishment of a mitigation monitoring plan (MMP). As required under CEQA, an MMP will be prepared and presented to the City Council at the time of certification of the Final EIR for the proposed project and will identify the specific timing and roles and responsibilities for implementation of adopted mitigation measures.

1.5 Subsequent Project Approvals

This EIR discloses the environmental effects of the construction and operation of development allowed under the proposed Innovation Park PUD, including the CNU Medical Center, pursuant to the CEQA Guidelines. As described in Chapter 2, *Project Description*, the proposed project would require several approval actions by the City and other responsible agencies. Any subsequent development in the Innovation Park PUD area and on the site of the proposed CNU Medical Center must be consistent with the requirements of these approvals, as well as the adopted MMP, as applicable. Subsequent actions related to the proposed Innovation Park PUD would include site plan and design review for specific development and infrastructure projects other than the proposed CNU Medical Center, consistent with the proposed PUD and other applicable regulations and requirements.

PRC Section 21166 and CEQA Guidelines Section 15162(a) address the use of this EIR to cover later project activities. Under those sections, if the proposed future activities would not substantially differ from the proposed development envelope as analyzed in this EIR, and would not create new significant or substantially more severe significant impacts that were not examined

in this EIR, the later activities are considered to be within the EIR's scope and no further review under CEQA is required. More specifically, CEQA Guidelines Section 15162(a) states:

> When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:
>
> (1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
>
> (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
>
> (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:
>
> (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
>
> (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
>
> (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
>
> (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Thus, to the extent appropriate and consistent with the requirements of CEQA and the CEQA Guidelines, the City would rely on this EIR during its consideration of subsequent projects undertaken pursuant to the proposed Innovation Park PUD.

1.6 Document Organization

This Draft EIR is organized as follows:

Summary—This section summarizes the description of the proposed Innovation Park PUD, including the CNU Medical Center, and the conclusions of the Draft EIR. A summary table is included and organized to allow the reader to easily identify potentially significant effects, proposed mitigation measures, and any residual environmental impacts after implementation of

mitigation measures. A summary of the alternatives to the proposed project and the environmentally superior alternative is also provided. The Summary also describes areas of controversy regarding the proposed project that are known to the City as of publication of this Draft EIR.

Chapter 1, *Introduction*—This chapter describes the purpose and organization of the Draft EIR.

Chapter 2, *Project Description*—This chapter describes the proposed project. The description includes, with text and graphics, the location and boundaries of the proposed project, statements of objectives from the project applicant and the City, and a description of the proposed project's components and characteristics.

Chapter 3, *Land Use, Population, Employment, and Housing*—This chapter provides an overview of the land use and planning issues that could arise in connection with the proposed project. In addition, it describes population and housing conditions and trends in the city of Sacramento, and the population, employment, and housing characteristics of the proposed project.

Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*—For each environmental issue, this chapter discusses the environmental and regulatory setting, the methodology used, the detailed analysis of potential impacts (including direct, indirect, and cumulative impacts), and, if necessary, a discussion of potentially feasible mitigation measures.

Chapter 5, *Other CEQA Considerations*—This chapter discusses several issues required to be included in a Draft EIR, including effects not found to be significant, significant and unavoidable impacts, significant irreversible environmental changes, cumulative impacts, the potential for the proposed project to cause urban decay, and the potential for the proposed project to induce urban growth and development.

Chapter 6, *Project Alternatives*—This chapter describes potentially feasible alternatives to the proposed project that may avoid or substantially reduce one or more significant impacts while attaining most of the basic objectives of the project, and evaluates the comparative environmental effects of the alternatives.

Chapter 7, *List of Preparers and Persons Consulted*—This chapter identifies the agency staff and consultants who prepared the Draft EIR, and the agencies or individuals consulted during preparation of the Draft EIR.

Chapter 8, *Acronyms and Abbreviations*—This chapter lists the acronyms and other abbreviations used in this Draft EIR, in alphabetical order.

Chapter 9, *References*—This chapter lists all citations used throughout the Draft EIR.

Appendices—The appendices include environmental scoping information and technical reports and data used in the preparation of the Draft EIR. For printed documents, the appendices are provided on a flash drive at the back of the Draft EIR.

CHAPTER 2
Project Description

2.1 Introduction

This chapter presents information regarding the components and characteristics of the proposed project and the discretionary approvals anticipated to implement the project. A concise outline of the project's elements is provided in the Summary.

The project analyzed in this draft environmental impact report (Draft EIR) is the proposed Innovation Park Planned Unit Development (Innovation Park PUD). The Innovation Park PUD document is available for review at the City of Sacramento (City) Community Development Department's service counter and online at https://www.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports. The proposed Innovation Park PUD provides a flexible regulatory framework for development in the Innovation Park PUD area.

This project description identifies all of the following:

- The location of the proposed Innovation Park PUD.
- Land uses allowed under the proposed Innovation Park PUD.
- The scenario analyzed in this Draft EIR based on the allowed land uses.
- The off-site infrastructure required to support the proposed Innovation Park PUD.
- Other components of project implementation that are covered by this Draft EIR.
- The discretionary approvals required for implementation of the proposed Innovation Park PUD.

The Draft EIR undertakes a programmatic analysis of the Innovation Park PUD. Future development proposals requiring subsequent discretionary actions would be evaluated on a case-by-case basis to determine whether such actions are consistent with the Innovation Park PUD as described herein.

This Draft EIR also includes project-level analysis of a currently proposed project within the Innovation Park PUD area: the California Northstate University Medical Center (CNU Medical Center). This project is described, including the site proposed for the CNU Medical Center; physical characteristics; operational characteristics of the proposed CNU Medical Center, such as hours of operation and employment; construction characteristics; and anticipated discretionary approvals by the City and other agencies.

2.2 Project Location

The Innovation Park PUD area (referred to as the *project area*) is located in Sacramento, California, approximately 80 miles east of San Francisco and 85 miles west of Lake Tahoe. Sacramento is a major transportation hub, the point of intersection of transportation routes that connect Sacramento to the San Francisco Bay Area to the west, the Sierra Nevada to the east, Los Angeles to the south, and Oregon and the Pacific Northwest to the north.

The city is bisected by major freeways: Interstate 5 (I-5), which traverses the state from north to south; Interstate 80 (I-80), which provides an east-west connection between San Francisco and Reno; and U.S. Highway 50, which provides an east-west connection between Sacramento and South Lake Tahoe. Two railroads, the Union Pacific Railroad and the BNSF Railway, also transect Sacramento. Daily Amtrak service is provided from the Sacramento Valley Station at 4th and I Streets (on the Union Pacific Railroad line), linking Sacramento to the Bay Area; the Central Valley, south to Bakersfield, and beyond to Southern California; Roseville, Auburn, and points east to the Sierra Nevada; Redding and points north to Seattle, Washington; Amtrak regional bus connections throughout Northern California; and points east to Chicago, Illinois.

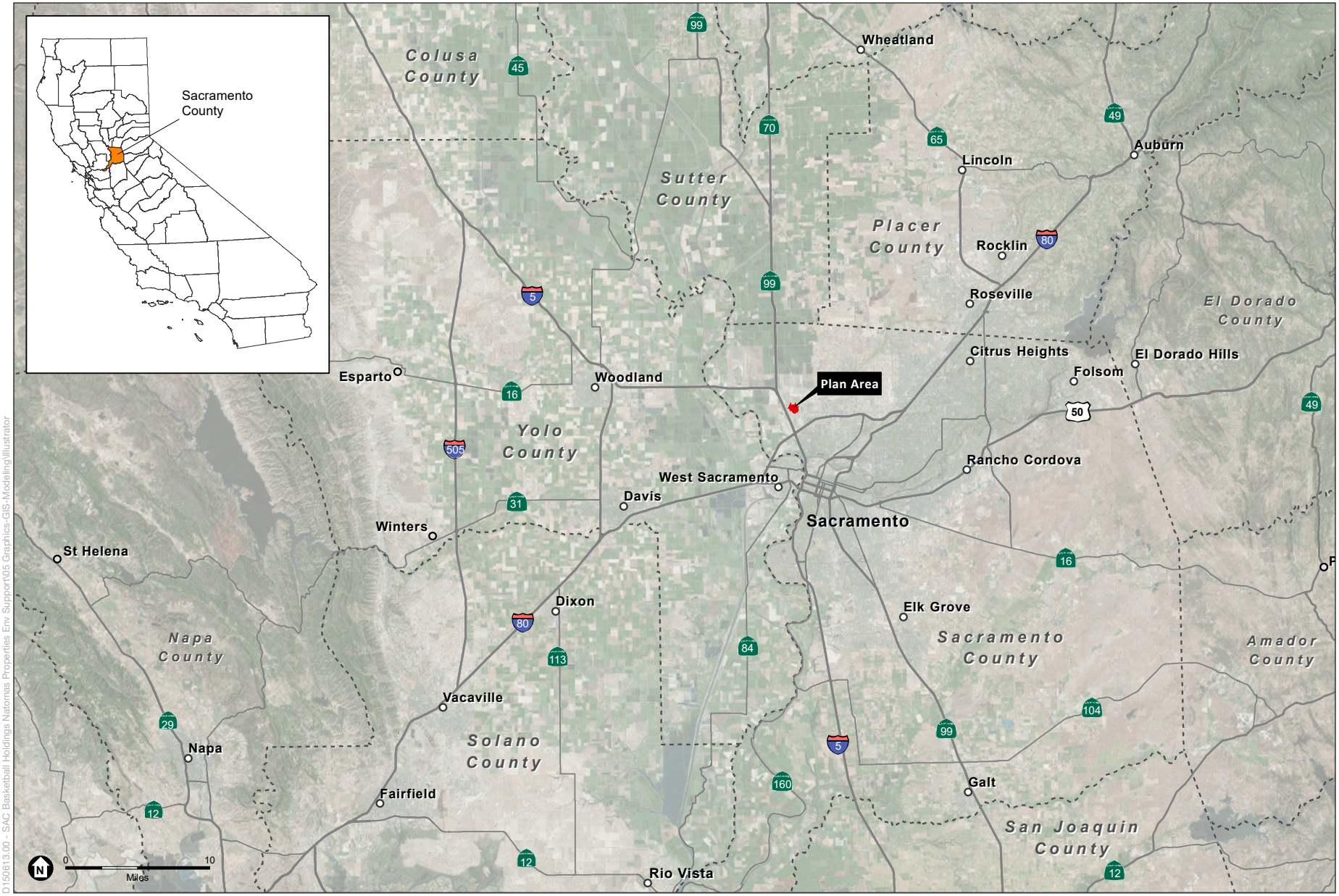
Figure 2-1 shows the location of the project area in context of the Sacramento region.

The project area is an approximately 183.7-acre site within the North Natomas community in the northwestern portion of the city of Sacramento. The project area comprises five parcels: Assessor's Parcel Numbers 225-0070-059, 225-0070-060, 225-0070-063, 225-0070-067, and 225-0070-076. The project area includes the Sleep Train Arena building and former Sacramento Kings practice facility, parking lots surrounding the arena building, and partially and fully undeveloped areas north of the arena and parking lots. **Figure 2-2** and **Figure 2-3** show the project area and vicinity.

As shown in Figure 2-3, the project area is bounded by the curvilinear ring of Sports Parkway and undeveloped land to the north. The project area is located approximately 0.3 miles east of I-5 and 1.1 miles north of I-80, and can be accessed from Sacramento roadways via the West Entrance and Main Entrance, which provide access from East Commerce Way to the west; the South Entrance, which provides access from Arena Boulevard to the south; and the East Entrance, which provides access from Truxel Road to the east.

The proposed CNU Medical Center would be located on approximately 35 acres in the southwest portion of the Innovation Park PUD area (**Figure 2-4**). Access to the site of the proposed CNU Medical Center is currently provided by the Main Entrance to the west and Sports Parkway South to the south.

The land uses immediately surrounding the Innovation Park PUD area consist of mixed-use commercial, multi-family residential, and vacant land uses, and are bounded by Del Paso Road to the north, Truxel Road to the east, Arena Boulevard to the south, and East Commerce Way to the west.

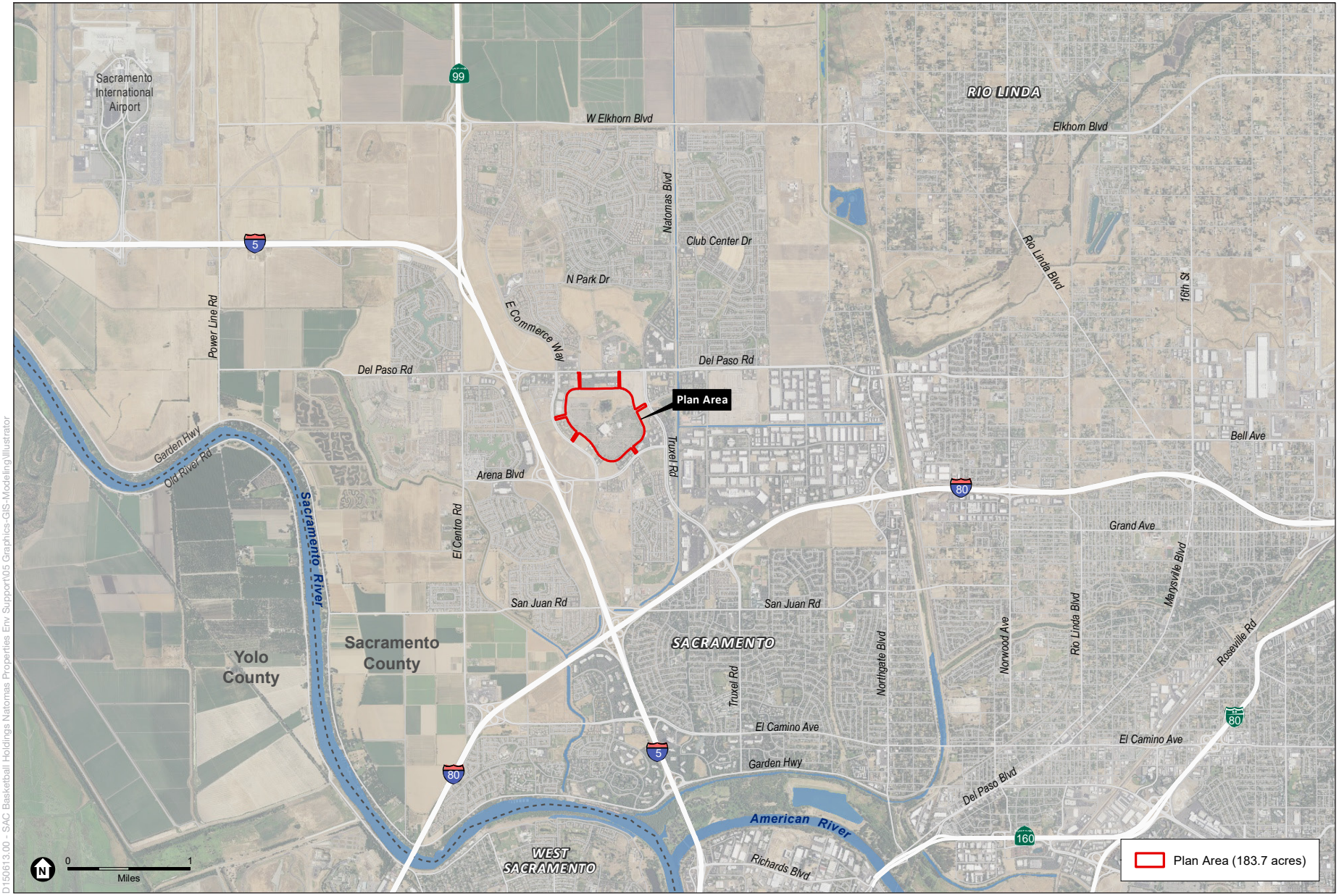


SOURCE: Esri, 2016; USDA, 2016; ESA, 2021

Innovation Park PUD

Figure 2-1
Regional Location

ESA



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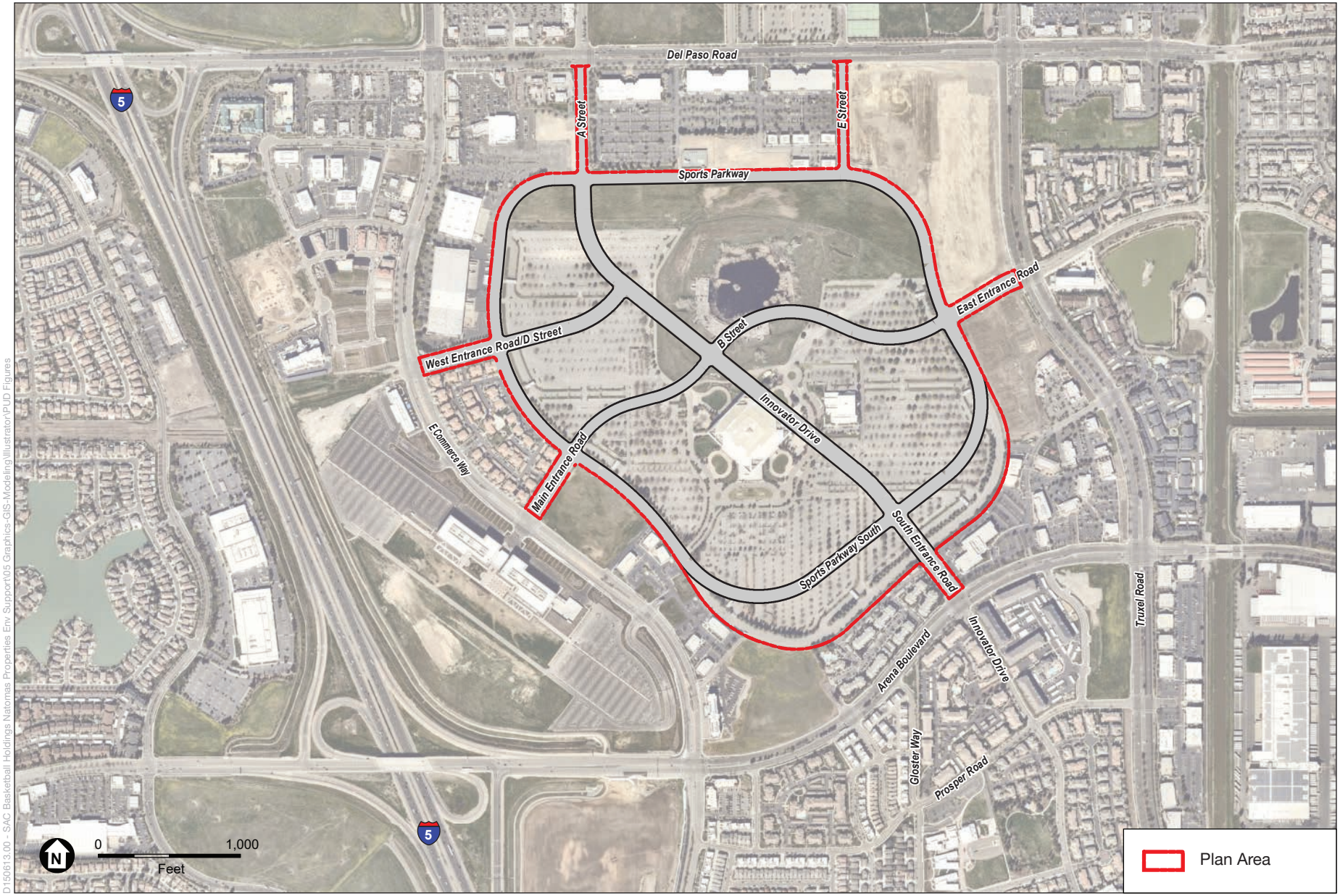
SOURCE: Esri, 2012; USDA, 2016; ESA, 2018

Innovation Park PUD

Figure 2-2
Plan Area Vicinity

ESA



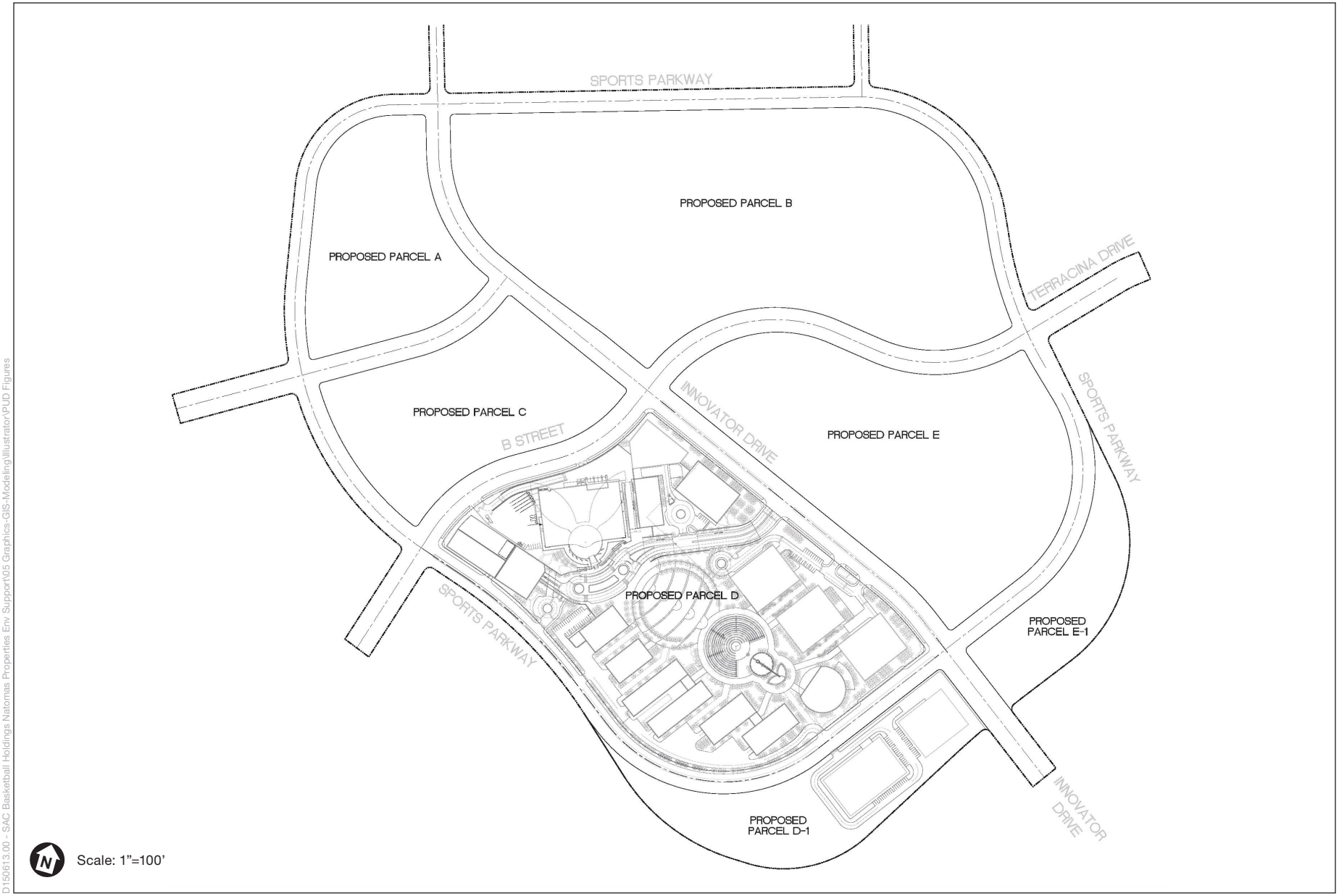
D1506613.00 - SAC Basketball Holdings Natomas Properties Env Support\05 Graphics-GIS-Modeling\Illustrator\PUD Figures

SOURCE: Google Earth Pro, 2021; ESA, 2021

Innovation Park PUD

Figure 2-3
Existing Project Site and Plan Area

ESA



D150613.00 - SAC Basketball Holdings Natomas Properties Env Support\05 Graphics-GIS-Modeling\Illustrator\PUD Figures

SOURCE: Fong & Chan Architects, 2021

Innovation Park PUD

Figure 2-4
CNU Medical Center Site within the Plan Area

ESA

2.3 Project Objectives

California Environmental Quality Act (CEQA) Guidelines Section 15124(b) requires that an EIR project description include a statement of the objectives intended to be achieved by the project. The objectives describe the purpose of the project and are intended to assist the lead agency in developing a reasonable range of alternatives for consideration in the EIR, and to assist the decision makers in assessing the feasibility of mitigation measures and alternatives.

The objectives of the proposed Innovation Park PUD are presented below, followed by the specific objectives for the proposed CNU Medical Center.

2.3.1 Innovation Park PUD

The overall goal of the proposed Innovation Park PUD is the orderly and systematic development of the Innovation Park PUD area that is compatible with site characteristics and consistent with the City's goals and policies. More specifically, the objectives of the proposed Innovation Park PUD are as follows:

1. Transform and redevelop the prior Sleep Train Arena site from an underutilized sports complex into a vibrant innovation district focused on health, education, and living, with a mix of uses that enhances the fabric of North Natomas and the region.
2. Provide policy and design guidance for new development that is compatible with and well-integrated within the existing community.
3. Provide synergistic connections between medical office, residential, and commercial development within and surrounding Innovation Park.
4. Develop a mixed-use environment that provides residents with the opportunity to live, work, and play within Innovation Park.
5. Provide a range of housing types and densities, including but not limited to step-up housing, to meet the varied needs and preferences of those who will work both in the Plan Area and the greater region.
6. Provide an urban-core adjacent environment that prioritizes multimodal transportation including pedestrian, bicycles, and vehicles through a centralized complete street framework.
7. Integrate a combination of proximal uses, including commercial, education, employment, residential, and other use opportunities and services.
8. Support the integration of the locally preferred route of the Sacramento Regional Transit District (SacRT) Green Line light rail line.
9. Create a flexible entitlement structure to provide for more cost efficient housing and the ability to respond to future job and market opportunities.
10. Promote environmental sustainability through the use of green building technology, water conservation, renewable energy resources, active transportation options, or other community innovations.
11. Provide diverse and engaging urban open space opportunities suitable for the urban context.

2.3.2 CNU Medical Center

The overall goal of the proposed CNU Medical Center is the development and operation of a teaching hospital and medical campus in North Natomas. More specifically, the objectives of the proposed CNU Medical Center at Innovation Park are as follows:

1. Offer innovative, high-quality health care for patients residing in the Natomas area and northern Sacramento County.

2. Develop a teaching hospital in close proximity to the California Northstate University (CNU) campus to provide training opportunities and accommodation for its students.

3. Promote new, highly accessible, and innovative care models by designing facilities to incorporate the most advanced techniques available for diagnosis and treatment.

4. Provide trauma services (planned Level II after certification) to respond to mass casualty incidences and other emergency response needs of the city and region, and to provide for healthcare and emergency services along the I-5 and I-80 corridors.

5. Develop an integrated university campus to accommodate all current and planned colleges within CNU, designed to create a distinct campus identity through the use of consistent materials and colors, pedestrian-friendly circulation, and attractive site features such as open space and other amenities for staff and community members.

6. Provide for clinical laboratory and pharmaceutical research and development facilities to support the medical mission of CNU.

7. Provide for student, faculty, and senior housing to service the CNU community.

8. Accommodate helicopter access directly to the facility and design helistop facilities in accordance with the following objectives:

    a. Lessen significant impacts on the surrounding community.

    b. Locate the helistop to meet the functional needs of the hospital.

    c. Comply with all applicable regulatory and life safety requirements for helistops and helicopter travel, including but not limited to Federal Aviation Administration (FAA) requirements for flight path obstruction clearance.

    d. Locate the helistop on a site where access is controlled, to ensure public safety during helicopter landings and take-offs.

    e. Construct a visually unobtrusive helistop, integrating into the design of the hospital building.

9. Provide economic stimulus for the city of Sacramento and the surrounding region by creating high-paying jobs that will have a multiplier effect on regional economic growth.

10. Develop a staff- and patient-friendly hospital with a convenient location, available parking, and efficient patient and emergency access in close proximity to amenities and patient services.

2.4 Innovation Park Planned Unit Development

2.4.1 Existing Conditions

Land Use Designations and Zoning Districts

Existing Urban Center High General Plan and Zoning

In the Sacramento 2035 General Plan (2035 General Plan or General Plan), the Innovation Park PUD area (project area) is currently under the Urban Center High land use designation, which allows for a density range of 24–250 dwelling units per acre and a floor area ratio ranging from 0.55 to 88.0. Allowable building heights in the Urban Center High land use designation range from two to 24 stories.

The Urban Center High land use designation is described in the 2035 General Plan as providing "thriving areas with concentrations of uses similar to downtown [Sacramento]."[1] Urban centers are intended to include employment-intensive uses, high-density housing, and a wide variety of retail uses including large-format retail, local shops, restaurants, and services. Allowable uses within the Urban Center High land use designation include retail, service, office, and residential uses; gathering places such as plazas, courtyards, or parks; and compatible public, quasi-public, and special uses.

The project area is currently zoned as SPX-PUD (Sports Complex/Planned Unit Development). The SPX zone is intended to ensure that development and use of land and improvements to that land support a sports complex for professional and amateur sports, and accommodate arena events, exhibitions, and performances that provide for the education, information, recreation, culture, or entertainment of Sacramento area residents and visitors, in accordance with the specific land use policies of the General Plan, community plans, and the PUD Guidelines (Sacramento City Code Section 17.224.200).

A conditional use permit is required for each use in the SPX zone. Permitted uses in an SPX zone are generally limited to those that support a large sports complex or are temporary.

Existing and Adjacent Uses

The project area includes the Sleep Train Arena building and the former Sacramento Kings practice facility, both of which are no longer used for their primary purpose, as Sacramento Kings operations are now conducted at the Golden 1 Center and adjacent practice facility in Downtown Sacramento. The majority of the southern portion of the project area, including the location proposed for the CNU Medical Center, consists of a paved parking lot and the private Sports Parkway, which surrounds most of the project area. The northern portion of the project area is undeveloped. This area contains the foundation and excavated area for a partially completed baseball field and stadium, for which work was discontinued many years ago. The excavated area is now filled with water and supports riparian habitat along the edges. Uses adjacent to the project area include mixed-use commercial, multi-family residential, and vacant land uses.

[1] City of Sacramento. 2015. *Sacramento 2035 General Plan.* Adopted March 3, 2015. Page 2-76.

2.4.2 Proposed Land Use Designations

Under the proposed Innovation Park PUD, the project area would be redesignated as Urban Center Low (**Figure 2-5**). The Urban Center Low land use designation would allow a residential density range of 20–150 units per acre, and nonresidential floor area ratios between 0.40 and 4.0. Allowable building heights under the Urban Center Low designation generally range from two to seven stories, with taller heights permitted if supported by the context and market.

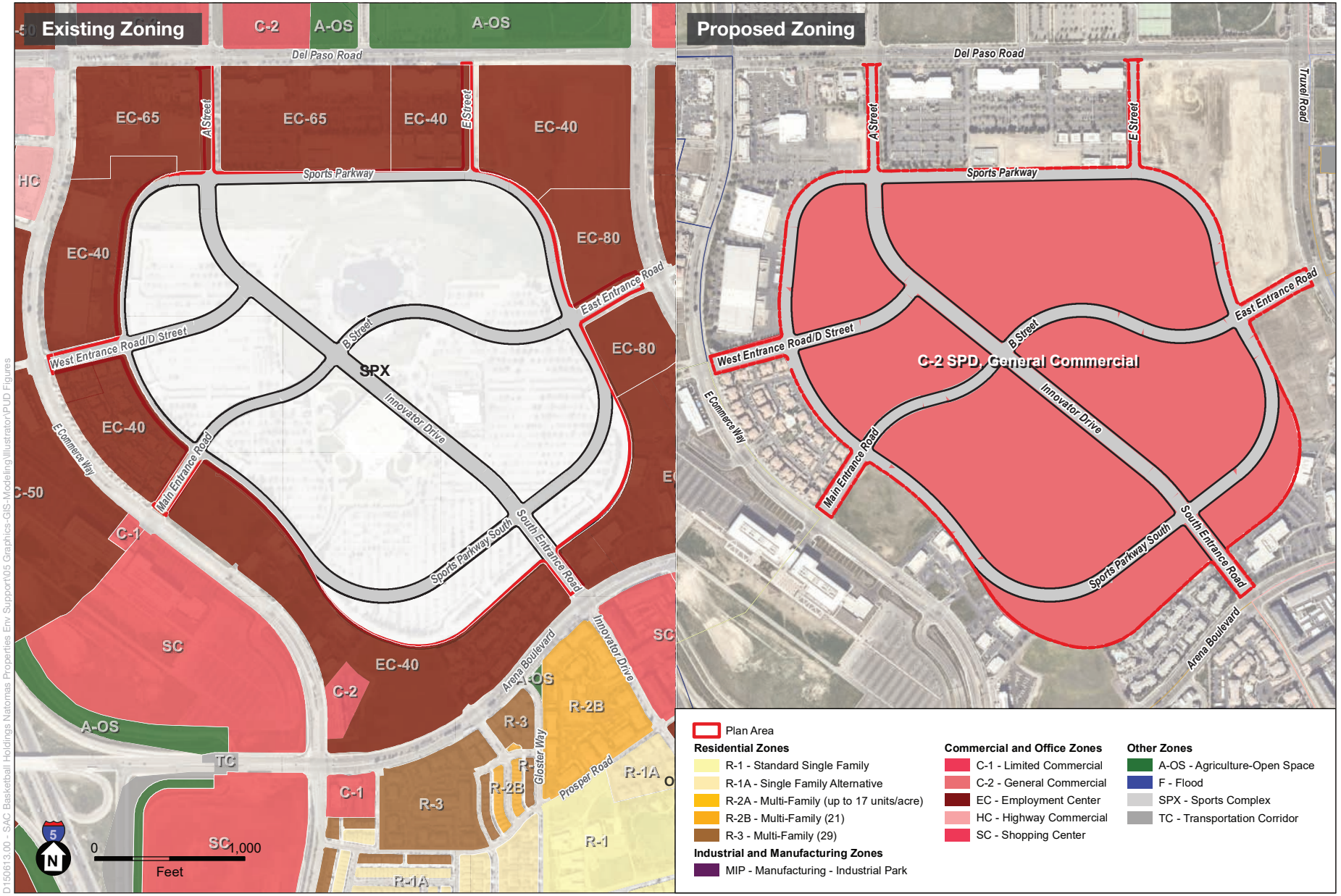
The current zoning designation would be replaced with General Commercial Planned Unit Development (C-2 PUD) zoning, based on the existing zoning included in the City's Planning and Development Code (Figure 2-5). As described in Sacramento City Code Section 17.216.710, the C-2 zone allows for a variety of single- and multi-family residential uses, commercial and institutional uses, and industrial and agricultural uses. The C-2 zone also allows for a variety of conditional and accessory uses, maximizing the flexibility of these zones. The designation of PUD zoning allows the City to designate specific deviations from the City's Planning and Development Code, allowing for the expansion or reduction of development limits that are applied to particular zoning designations. A PUD can also prohibit specified uses from locating in an area.

The C-2 zone allows a combination of typical land uses, such as commercial, office, residential, and open space. The proposed Innovation Park PUD does not prescribe any particular mix of uses within each category or block in the project area, although districts within the PUD area are envisioned to have dominant uses such as residential or health/medical. The proposed Innovation Park PUD anticipates that allowable development for each use developed would depend, in part, on the amount of previously established development capacity that is taken up by other uses. **Figure 2-6** shows the existing and proposed land uses.

2.4.3 Development Program

The proposed Innovation Park PUD would establish assumed levels of development for the project area as a whole, as well as specific development standards for each land use category. The proposed Innovation Park PUD requires a site plan and design review process that would ensure that future development projects are consistent with the goals, policies, objectives, and other provisions of the Innovation Park PUD; the Innovation Park PUD EIR and mitigation monitoring program; any applicable development agreements; all other applicable plans, ordinances, and development regulations. The site plan and design review process is also intended to ensure that development under the proposed Innovation Park PUD would be compatible with surrounding uses. In addition, some future development proposals in the project area would require a conditional use permit.

As proposed, the General Plan's Urban Center Low land use designation would be provided for in the proposed Innovation Park PUD. The C-2 PUD would allow all uses normally permitted in the C-2 zone except adult entertainment business uses.



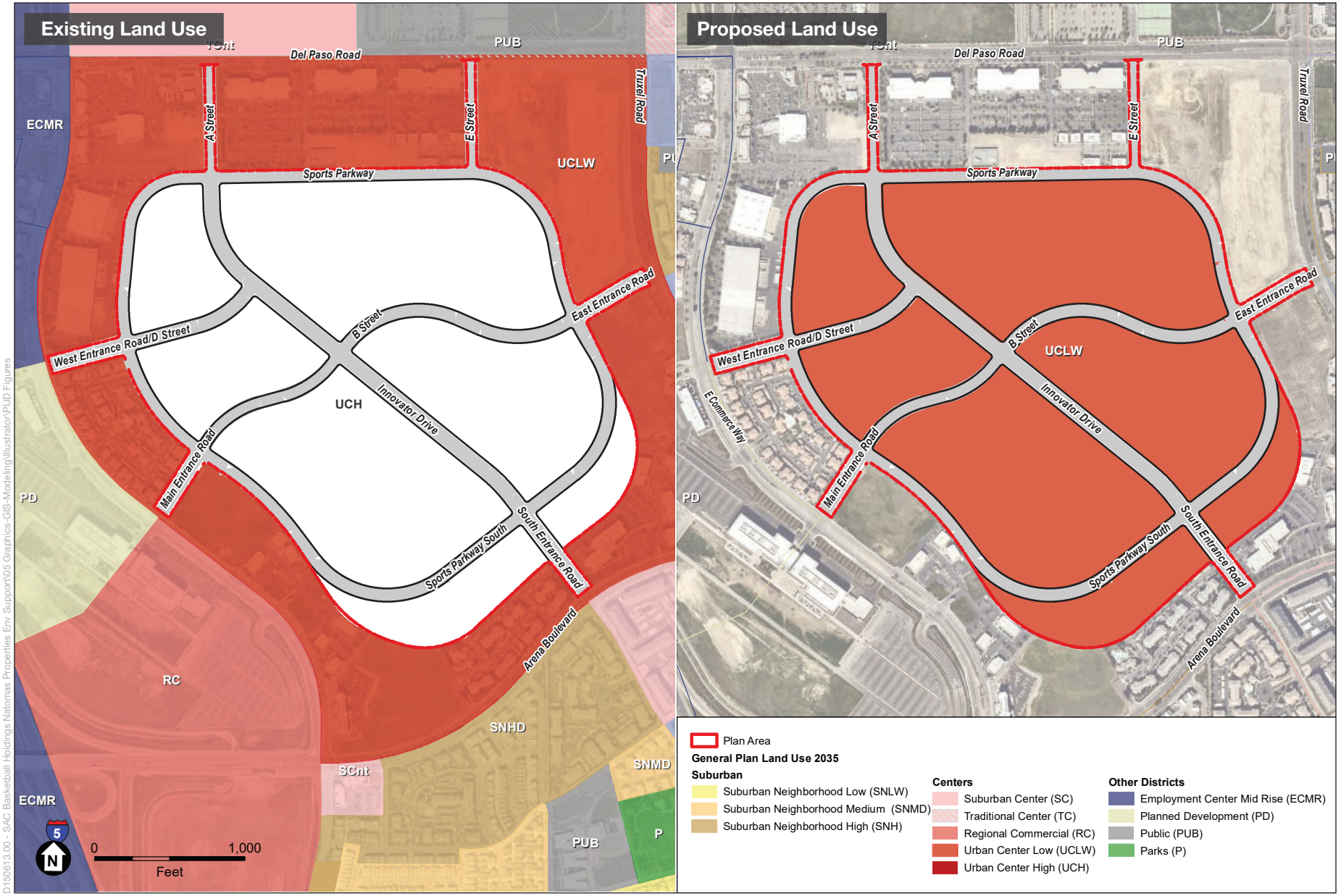
D1506613.00 - SAC Basketball Holdings Natomas Properties Env Support\05 Graphics-GIS-Modeling\Illustrator\PUD Figures

SOURCE: ESA, 2021

Innovation Park PUD

Figure 2-5
Existing and Proposed Zoning

ESA



D150613.00 - SAC Basketball Holdings Natomas Properties Env Support\05 Graphics-GIS-Modeling\Illustrator\PUD Figures

SOURCE: ESA, 2021

Innovation Park PUD

Figure 2-6
Existing and Proposed General Plan Land Use Designation

ESA

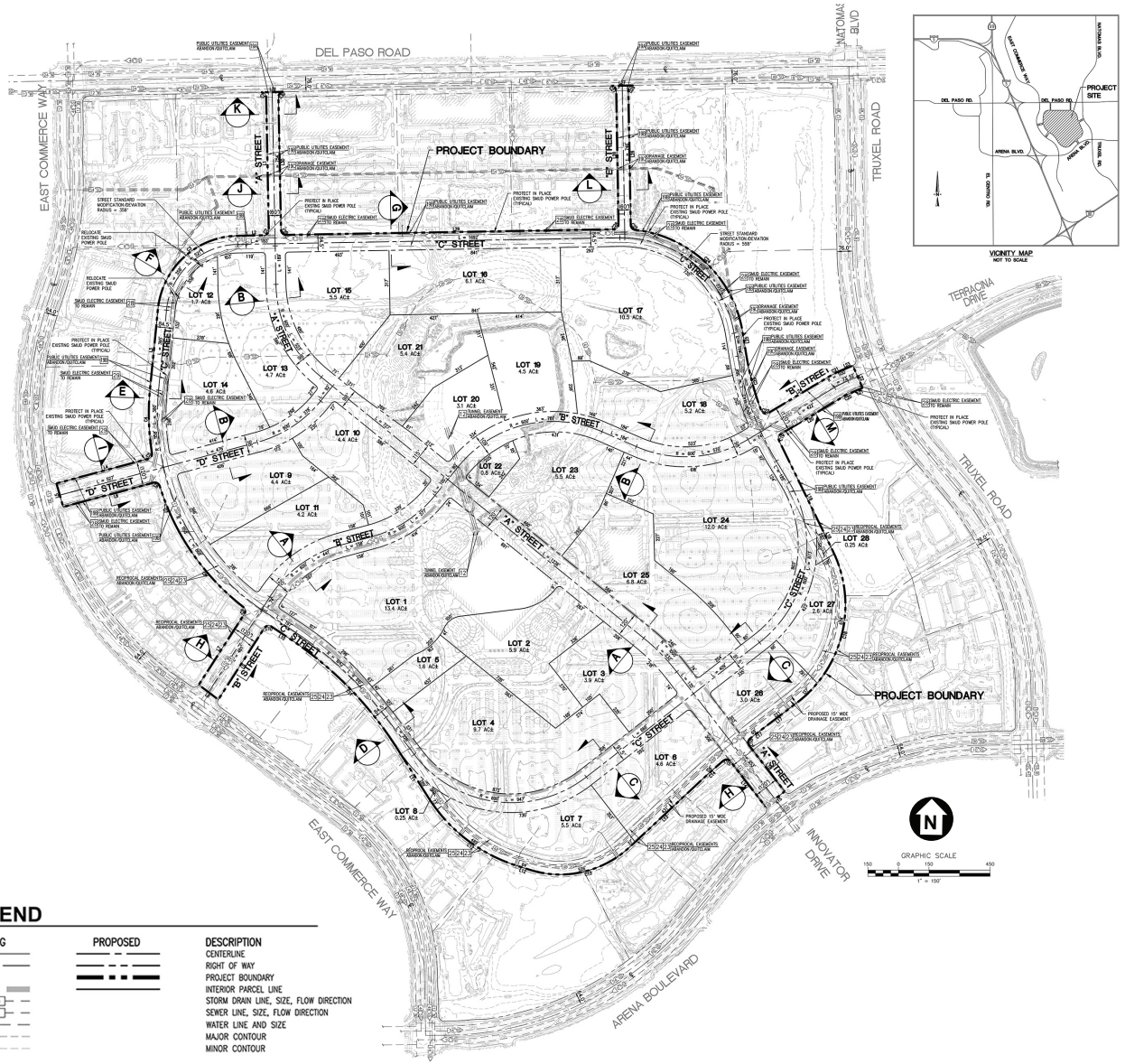
A tentative master parcel map for the Innovation Park PUD would create a set of general baseline parcels that would allow subsequent future development in the project area. This approach would provide the flexibility to utilize lot line adjustments for appropriately sizing parcels for individual developments without requiring subsequent amendments to the Innovation Park PUD. **Figure 2-7** shows the layout of baseline parcels included in the proposed site layout.

The proposed PUD provides a framework for a community defined by districts. The PUD provides for a total of three distinct districts with a strong sense of place: Health; Life; and Innovation. Each district consists of unique characteristics, individually identified to accommodate different but complementary uses.

- Health District. This district consists of Parcel D (approximately 35.6 acres) and Parcel D1 (approximately 10.4 acres). The Health District would contain a hospital and medical campus, complementary commercial, retail, medical office, residential uses for active seniors, medical focused education facilities, and residences for students, faculty and faculty family members. Outdoor spaces and other public gathering places would be provided that foster connection to the surrounding districts.
- Life District. This district is comprised of Parcel B (approximately 41 acres) and Parcel E (approximately 31.2 acres). The Life District incorporates the area east of Innovator Drive, and may include but is not limited to a mix of neighborhoods, a park and plaza, a school, a hotel and local serving retail. It would include vibrant higher density urban residential areas in the core of Innovation Park, graduating to quieter, less dense neighborhoods within, and feature a prominent urban plaza and nature park.
- Innovation District. This district is comprised of Parcel A (approximately 11.1 acres) and Parcel C (approximately 13.8acres) encompassing a mix of higher intensity uses focused on innovation, including office, and residential mixed-use. Both Parcel A and Parcel C may include residential mixed-use neighborhoods and access to passive parks. In addition, a SMUD substation will be located within Parcel A to provide supplemental utility capacity for the Plan Area and surrounding uses.

Development Program Densities

The project area could develop to serve a diverse mix of uses: employment uses, various market sector housing types, commercial, shopping, destination amenities, and a range of personal and professional services. As described above, the C-2 PUD zone could be developed in a number of ways. However, for the purposes of this analysis, the City has prepared an anticipated development scenario, based on the mix of development likely to occur in the project area. **Table 2-1** summarizes the anticipated development scenario for the project area that is analyzed in this EIR, and **Figure 2-8** shows the corresponding development districts.



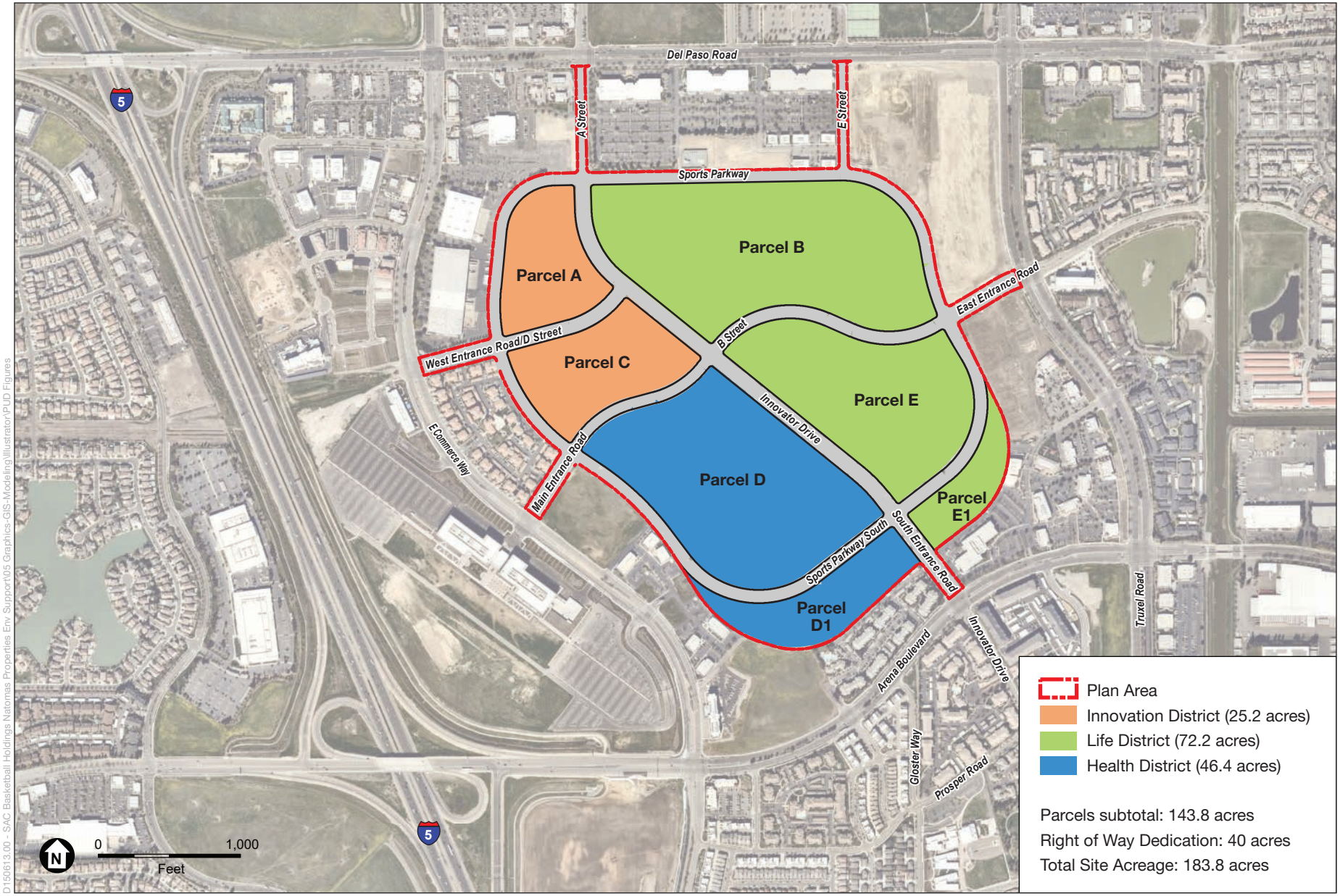
D150613.00 - SAC Basketball Holdings Natomas Properties Env Support\05 Graphics-GIS-Modeling\Illustrator\PUD Figures

SOURCE: Stantec, 2021

Innovation Park PUD

Figure 2-7
Proposed Tentative Subdivision Map

ESA



D150613.00 - SAC Basketball Holdings Natomas Properties Env Support\05 Graphics-GIS-Modeling\Illustrator\PUD Figures

SOURCE: ESA, 2021

Innovation Park PUD

Figure 2-8
Innovation Park PUD Districts Plan

ESA

TABLE 2-1
DEVELOPMENT ASSUMPTIONS FOR THE INNOVATION PARK PLANNED UNIT DEVELOPMENT

Parcel	Land Area Acres	Land Use[a]	Density Units/Acre	FAR	Dwelling Units	Gross Floor Area Nonresidential (sf)
Innovation District						
A1	1.7	SMUD	NA		0	0
A2	4.8	MF	75 du/ac	NA	324	0
A3	4.6	R-MU	70 du/ac	1.69	290	15,000
Subtotal A	*11.1*				*614*	*15,000*
Life District						
B1	5.5	MF	40 du/ac	NA	187	0
B2	16.9	MF	20 du/ac	NA	254	
B3	3.5	R-MU	40 du/ac	0.95	313	4,000
B4	5.4	R-MU	28du/ac	0.68	121	7,000
B5	4.0	Park		NA		
Subtotal B	*41.0*				*875*	*11,000*
Innovation District						
C1	4.6	R-MF	70 du/ac		290	
C2	4.7	Office	NA	1.17	0	180,000
C3	4.5	R-MU	80 du/ac	.95	324	20,000
Subtotal C	*13.8*				*614*	*200,000*
Health District						
D	35.6	Medical Center Campus			600	3,413,400
D-1	10.4	Medical Center Campus				266,000
Subtotal D	*46.0*				*600*	*3,679,400*
Life District						
E1	0.8	Park/Plaza	NA	NA		
E1A	5.9	Hotel, Office		1.3		240,000
E2	7.2	R-MU	40 du/ac	0.93	231	4,000
E3	5.8	MF	30 du/ac	NA	140	0
E4	12.0	School, Open Space				
Subtotal E	*31.7*				*370*	*244,00*
Subtotal Districts	***143.5***				***3,071***	***4,149,400***
ROW	40.2	Major Streets, Curvilinear Park				
Total	**183.7**				**3,071**	**4,149,400**

NOTES:

[a] du/ac = dwelling units per acre; FAR = floor area ratio; MF = multi-family residential; NA = not applicable; R-MU = residential mixed-use; ROW = right-of-way; sf = square feet; SMUD = Sacramento Municipal Utility District

SOURCE: Data compiled by Environmental Science Associates in 2021

2.4.4 Circulation

Roadway Network

The project area would include a circulation network that would provide connectivity to the surrounding road system, while supporting a range of transportation modes and providing a street framework that is more representative of a dense multimodal environment. The circulation network for the proposed Innovation Park PUD would utilize existing internal roadways within the project area, modifying them as needed to meet the functional requirements of the Innovation Park PUD's circulation plan. It is anticipated that a modified block approach would be integrated in the project area where feasible; however, the key planned backbone infrastructure would include two main multimodal arterial roadways that would bisect the project area: Innovator Drive and B Street. These two main roadways would provide connectivity at existing access points that connect the project area's road network to the major arterial roadways to the north, west, south, and east (Del Paso Road, East Commerce Way, Arena Boulevard, and Truxel Road, respectively). **Figure 2-9** shows the planned backbone roadways for the proposed Innovation Park PUD.

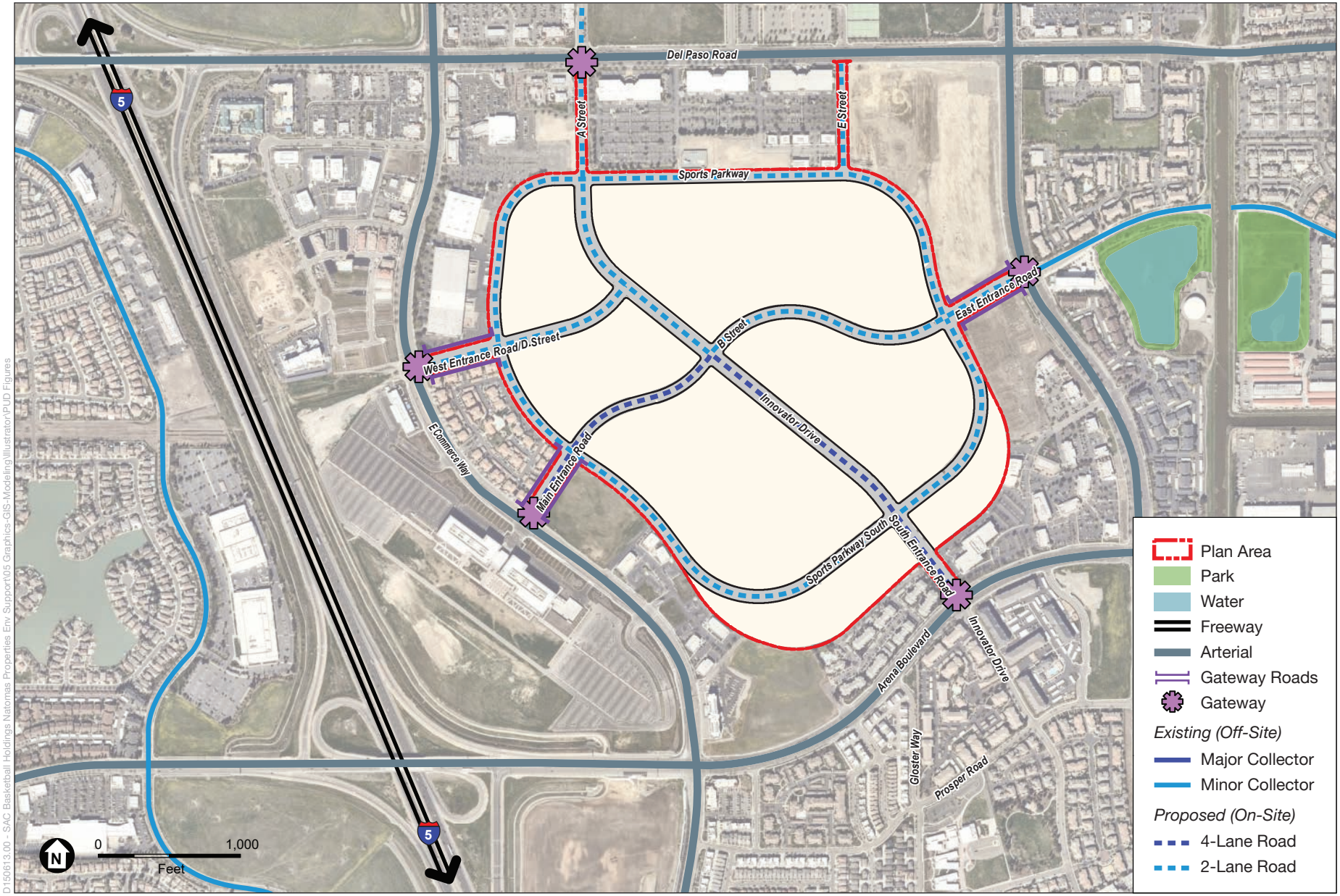
As shown in Figure 2-7, Sports Parkway would be extended around the northern portion of the project area, completing the internal ring generally near the perimeter of the project area. In addition, the existing portion of the internal ring roadway on the southern border of the project area, Sports Parkway South, would be shifted north to provide enough separation for safety and visibility purposes between the intersection of Arena Boulevard/Innovator Drive located off-site and the intersection of Sports

Parkway South/Innovator Drive located on-site. Innovator Drive would also be extended northwest, from its intersection with Sports Parkway South to the intersection of Del Paso Road and Town Center Drive/Sports Parkway, completing one of the two proposed bisecting arterial roadways. A roadway segment would connect the West Entrance roadway to the proposed extension of Innovator Drive.

Five Star Way/E Street, which also extends south from Del Paso Road, would be connected to the internal ring road, Sports Parkway. West Entrance Road/D Street would be extended from the intersection of West Entrance Road and Sports Parkway eastward through the center of the project area to Innovator Drive. Main Entrance Road would extend eastward, connect to Sports Parkway and Innovator Drive, before connecting to the intersection of the East Entrance and Sports Parkway, completing the second of the two proposed bisecting arterial roadways. Secondary roads are not included in the proposed Innovation Park PUD or Tentative Master Parcel Map at this time because their locations and shape would evolve along with the use or type of future developments occurring in the project area.

Innovator Drive

Innovator Drive would be a four-lane arterial roadway between B Street and Sports Parkway South, with a 12-foot-wide median or center turn lane and street-side parking (**Figure 2-10**). North of B Street, Innovator Drive would be a two-lane roadway. Sidewalks along Innovator Drive would have a 8-foot-wide minimum paved width, and would be separated from the roadway by an approximately 8-foot-wide planting/lighting strip.



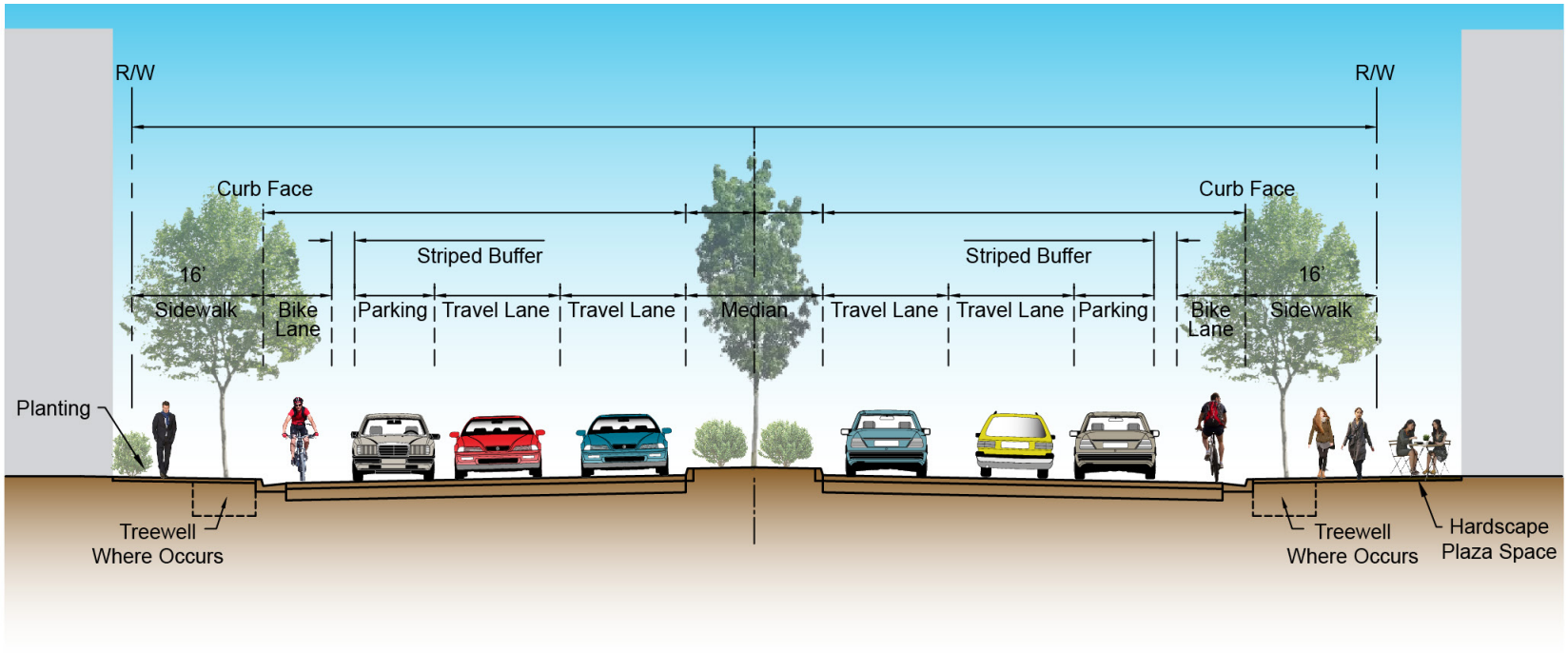
D1506613.00 - SAC Basketball Holdings Natomas Properties Env Support\05 Graphics-GIS-Modeling\Illustrator\PUD Figures

SOURCE: ESA, 2021

Innovation Park PUD

Figure 2-9
Proposed Roadway Network

ESA



SOURCE: Stantec, 2021; ESA 2021

Innovation Park PUD

Figure 2-10
Proposed 4-Lane Collector Cross Section, Parking on Both Sides

ESA

Sports Parkway

Sports Parkway would be a two-lane major collector, with parking on one side around the northern portion of the project area and parking on both sides along the southeast portion of the project area. In both areas, the roadway would have a 12-foot-wide median or center turn lane (Figure 2-10 and **Figure 2-11**). Sidewalks and planter strips along Sports Parkway would have varying widths and may meander adjacent to the roadway. Sports Parkway would include a Class I bike trail along the outer edge of the roadway.

Minor Collector Roads

Figure 2-12 provides a conceptual cross section view of minor collector roads that would be constructed with development of the Innovation Park PUD. Typical collector roads would include two or four vehicle travel lanes, with one or two lanes of travel in each direction, respectively, and 6-foot-wide Class II bicycle lanes and 7-foot-wide parking lanes on each side of the road. All collector roads would have sidewalks on each side of the road with a minimum paved width of 8 feet, separated from the roadway by 8-foot-wide planter strips.

Collector Gateways

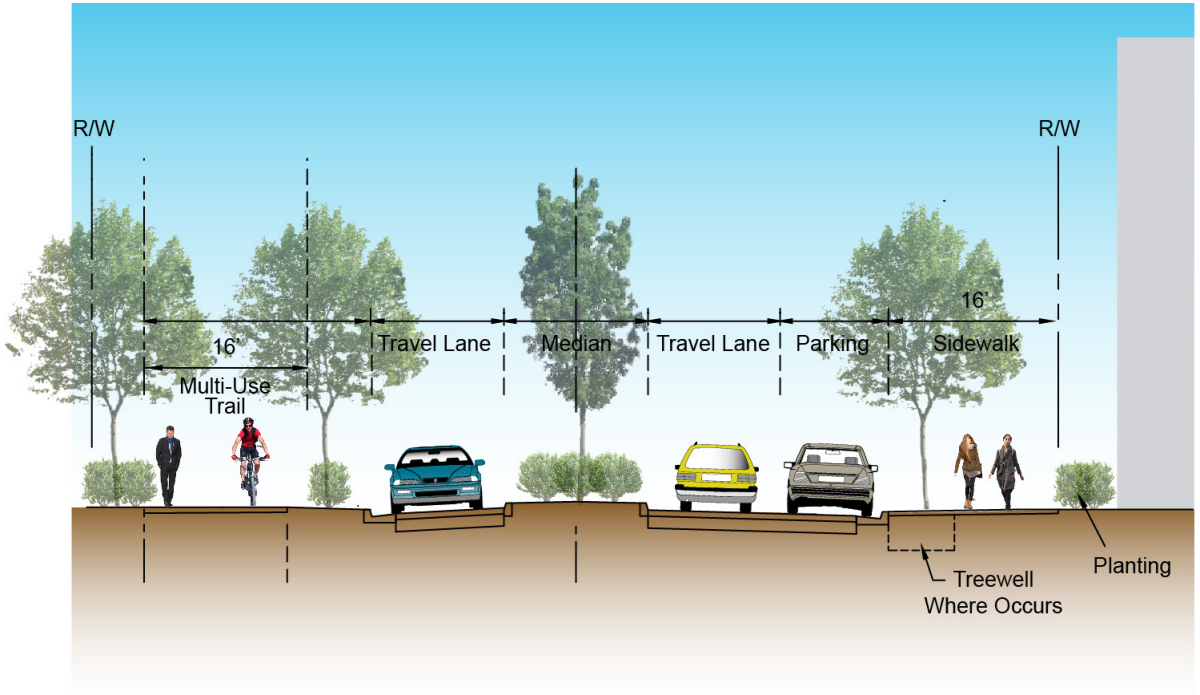
The project area would be accessed through three collector gateways. The West Entrance Road/ D Street and the East Entrance Road gateways would be configured to include one lane of travel in each direction, with the center through lane on each side also functioning as a turn lane. Travel lanes would be separated by a 23-foot-wide median or center turn lane. Each roadside would include a 6-foot-wide Class II bicycle lane, 7-foot-wide parking lane, and 6-foot-wide sidewalks on both sides of the road, with sidewalks separated from the roadway by 6.5-foot-wide planting and lighting strips.

The Main Entrance Road would be configured as a four-lane road, with two travel lanes in each direction. Travel lanes would be separated by a median or center turn lane. Each roadside would include a 6-foot-wide Class II bicycle lane, 7-foot-wide parking lane, and 6-foot-wide sidewalks on both sides of the road, with sidewalks separated from the roadway by 6.5-foot-wide planting and lighting strips.

The project area would also be accessed through modified major collector gateways at Sports Parkway and Five Star Way/E Street. Those roadway segments would be configured to include one lane of travel in each direction, separated by a median. Each roadside would include a 6-foot-wide Class II bicycle lane and 6-foot-wide sidewalks on both sides of the road. No parking would be provided.

Transit

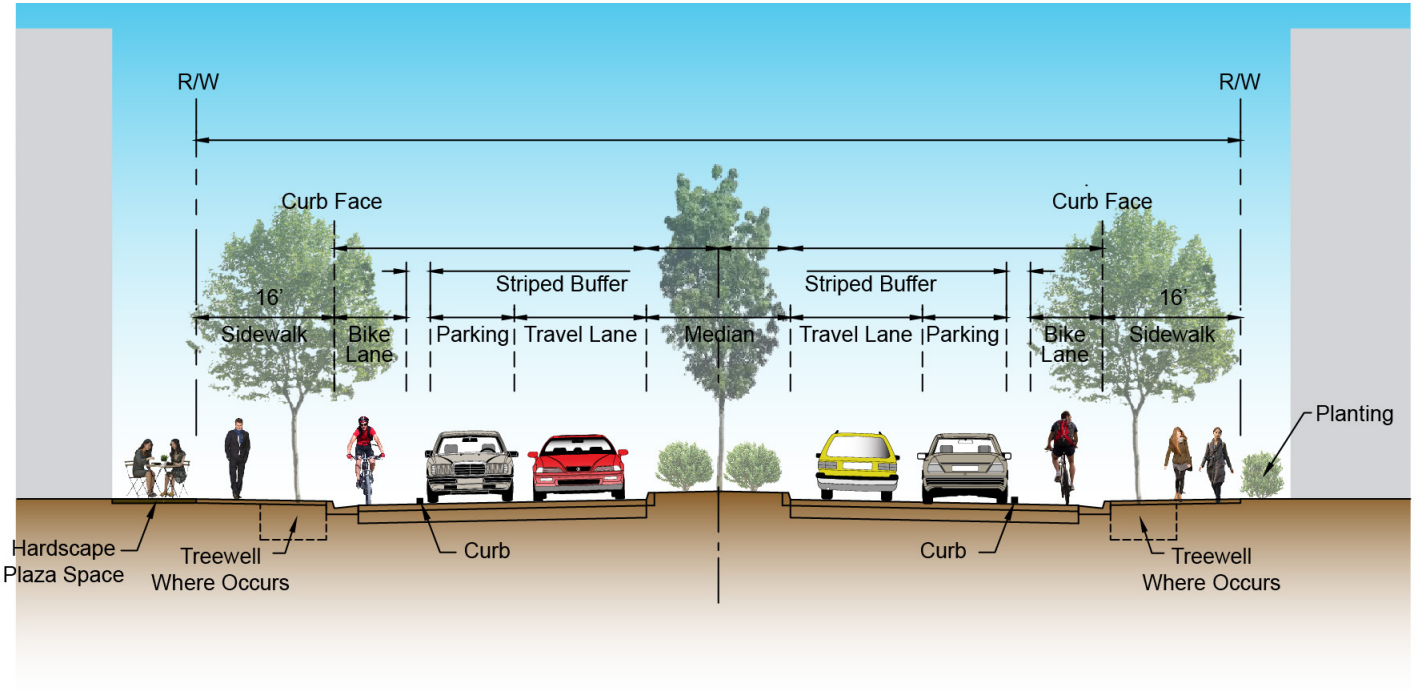
The current preferred alignment of the SacRT Green Line light rail route would be located along Truxel Road, running north/south to the east of the project area (see **Figure 2-13**). SacRT's preferred alignment is the one analyzed in this EIR. Regional Transit bus routes are also provided in North Natomas (see **Figure 2-14**).



SOURCE: Stantec, 2021; ESA, 2021

Innovation Park PUD

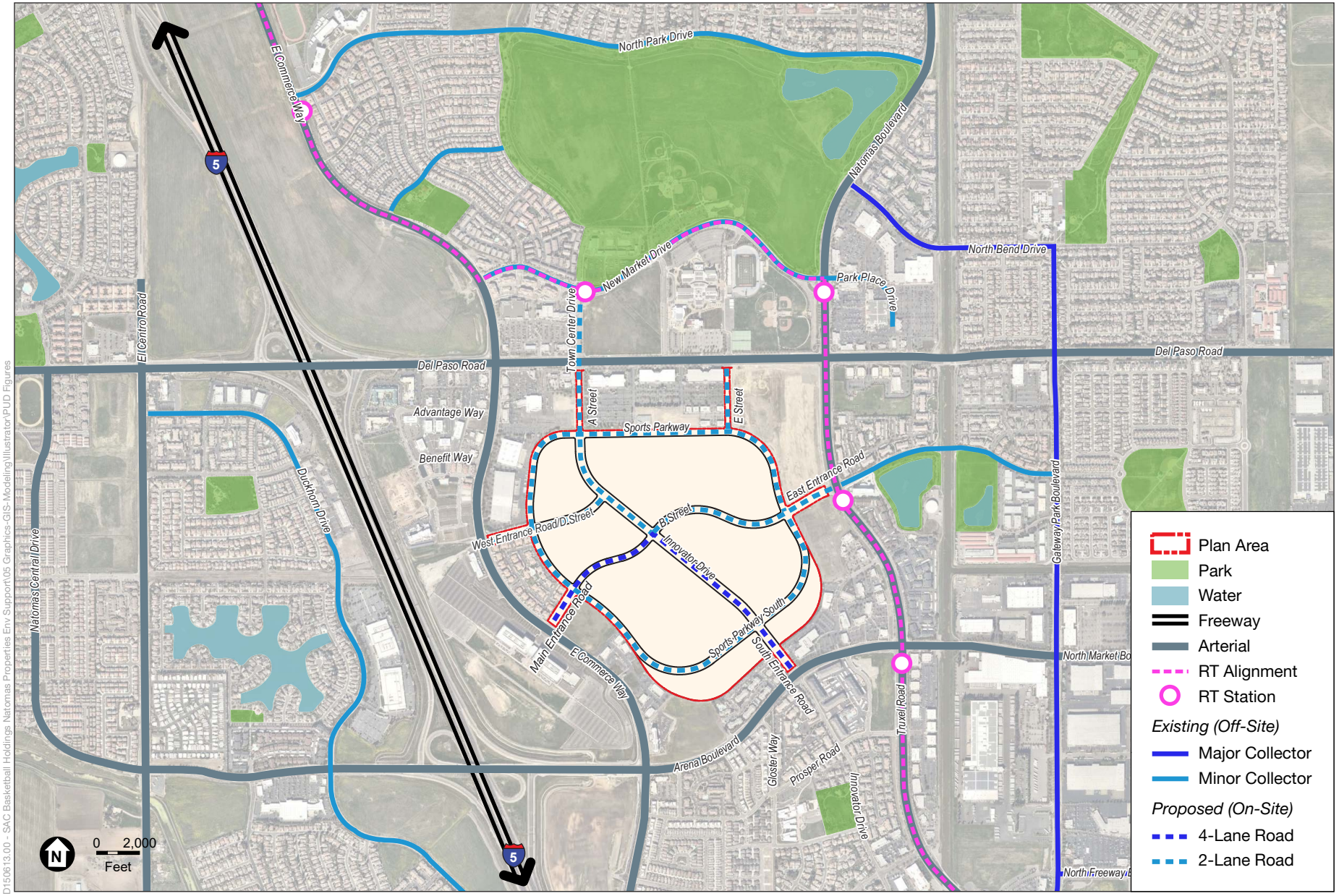
Figure 2-11
Proposed 2-Lane Collector Cross Section, Parking on One Side



SOURCE: Stantec, 2021; ESA, 2021

Innovation Park PUD

Figure 2-12
Proposed 2-Lane Collector Cross Section, Parking on Both Sides



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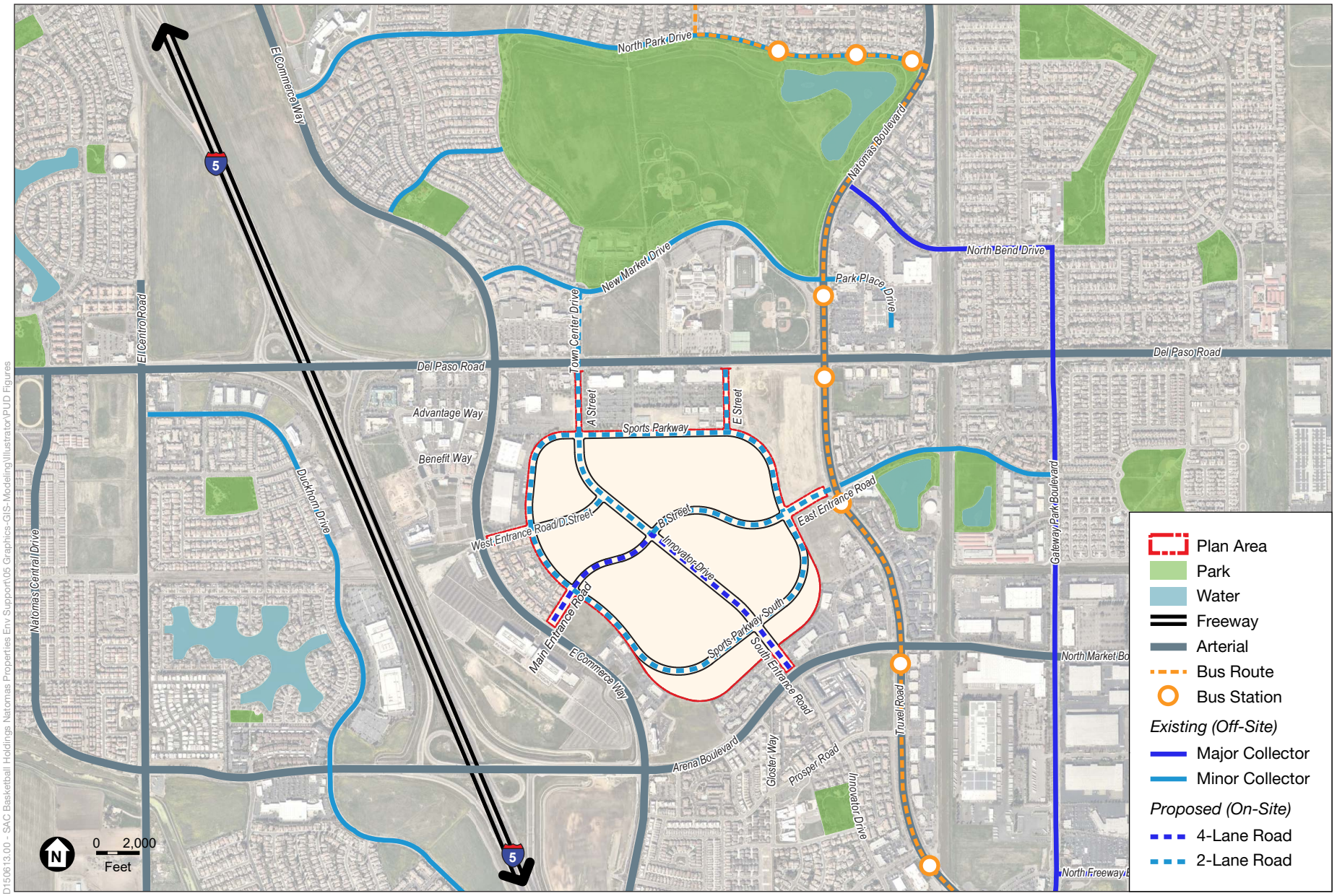
SOURCE: ESA, 2021

Innovation Park PUD

Figure 2-13
Future Light Rail Transit Alignment and Stations

ESA



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SOURCE: Kimley-Horn, 2021; ESA, 2021

Innovation Park PUD

Figure 2-14
Existing Bus Routes and Stops

ESA

Bicycle

Figure 2-15 presents the proposed bikeway plan for the proposed Innovation Park PUD. The Innovation Park PUD includes on-street bike lanes or off-road Class I trails on all major and minor collector roadways in the project area, including in the curvilinear park along Sports Parkway. Internal bikeways within the project area would connect to on-street facilities on Del Paso Road, Arena Boulevard, East Commerce Way, and Truxel Road at the gateways of the project area.

Pedestrian

Pedestrian circulation facilities in the project area would include sidewalks and pedestrian paths. As shown in Figures 2-10 through 2-12, streets in the project area would have sidewalks that would connect to the existing City sidewalk network at the gateways of the project area.

2.4.5 Parks and Open Space

The Innovation Park PUD proposes approximately 24.3 acres of public and publicly accessible parks and open space amenities for visitors and residents (**Table 2-2** and **Figure 2-16**). An urban plaza at the intersection of Innovator Drive and B Street is proposed to provide open space and serve as a gathering location. The 0.8-acre plaza would be highly visible and centrally located in the project area, and could serve residents of the overall project area, residents of the CNU Medical Center campus, and visitors.

TABLE 2-2
PARKS AND OPEN SPACE

Amenity	Acreage
Nature Park	4.0
Urban Plaza	0.8
Innovator Loop Curvilinear Park	6.0
Joint Use Park	4.4
CNU Medical Center Publicly Accessible Open Space	9.1
TOTAL	**24.3**

SOURCE: Data compiled by Environmental Science Associates in 2021

Located along B Street just east of Innovator Drive would be a nature park, a natural passive open space designed using elements of an existing habitat. This approximately 4-acre park would provide easy access from residences, offices, and the CNU Medical Center, and for visitors. As a nature-based park, it could fuse educational programs and programmed and non-programmed experiences. The key feature of Nature Park would be the existing native habitat and associated overlooks, shoreline, wildlife (primarily birds), and vegetation. Because of its location, nearby residences would have immediate physical and visual access from all sides. Numerous opportunities exist for its design and realization—trails and connections to adjacent uses, picnic and seating areas, lawn spaces, and special landscapes such as meadows, pollinator gardens, play areas, or event areas.

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SOURCE: ESA, 2021

Innovation Park PUD

Figure 2-15
Proposed Bike Network

ESA

SOURCE: ESA, 2021

Innovation Park PUD

Figure 2-16
Proposed Parks and Open Space Network

ESA

Innovator Loop Curvilinear Park would be adjacent to Sports Parkway, and would intersect each of the streets entering the project area. The loop would serve as a Class I bike route and pedestrian path, complete with streetscape and landscape improvements (totaling approximately 6 acres). The loop would accommodate workers who bicycle to work, residents and visitors who participate in cycling, and residents and workers who enjoy walking for fitness, health, or general wellness.

A school may be located within the Life District, bounded by B Street and Sports Parkway. In addition to meeting the educational needs of students, the site may include approximately 4.4 acres of sports fields. Access to these active recreation facilities would be made available to the community during non-school hours for organized games and/or events.

The CNU Medical Center would also have approximately 9.1 acres of publicly accessible open space, gardens, walkways, and outdoor amenities.

2.4.6 Utilities

Existing utility systems in the project area are sized to provide services for Sleep Train Arena operations at full capacity. The existing utility system would be accessible within the project area and used where feasible to serve future development under the proposed Innovation Park PUD.

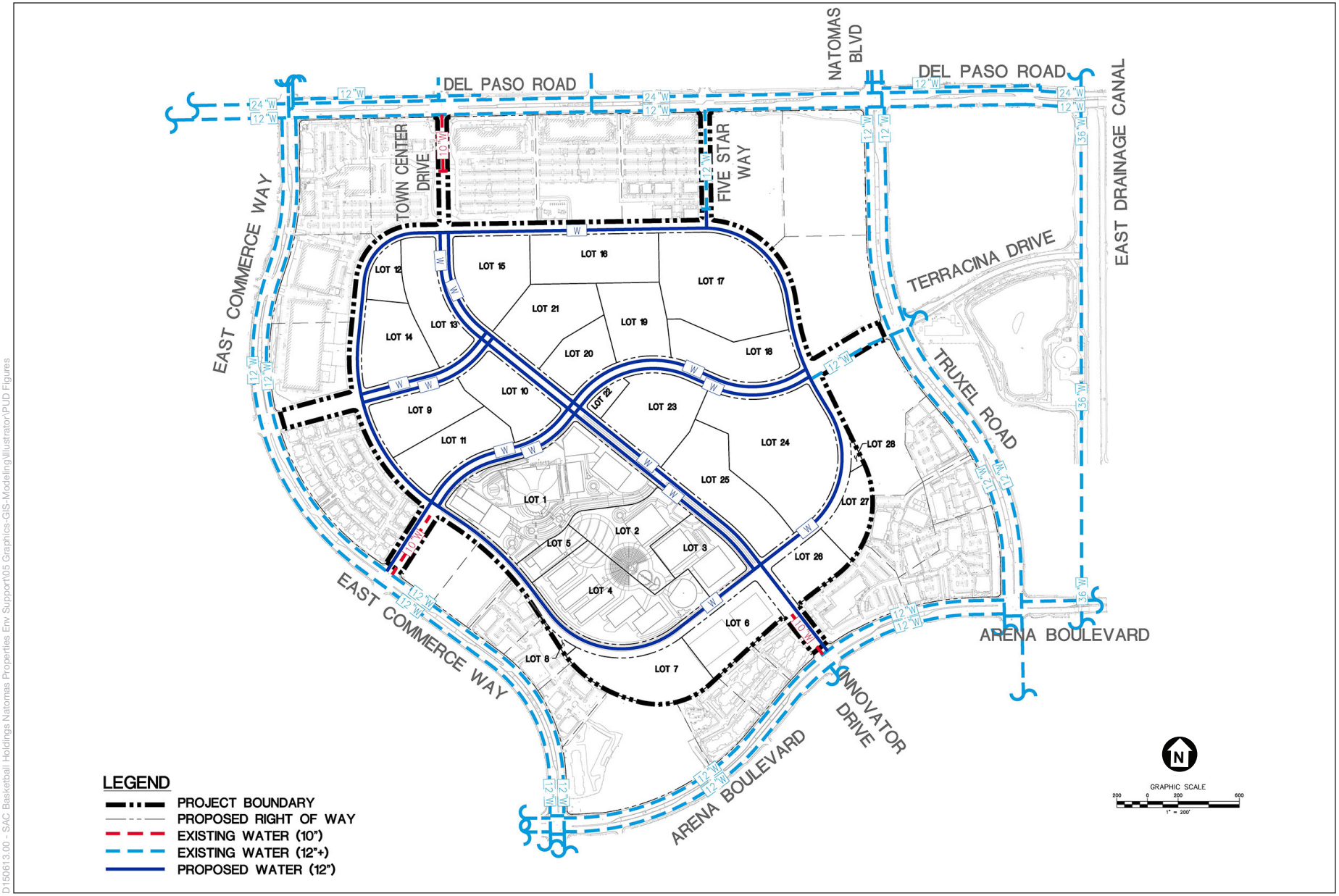
Water

The project area would be served by the City of Sacramento for domestic and fire suppression water needs. The project area is located in an area of the city that is served by an extensive system of service mains located in the main arterial roadways around the site. The proposed Innovation Park PUD's water distribution system would largely follow the street system throughout the entire project area (**Figure 2-17**).

There are presently three connections from these outer perimeter roads to the area within Sports Parkway:

- *West Connection:* 10-inch service in the Main Entrance roadway, between East Commerce Way and Sports Parkway.
- *South Connection:* 10-inch service in the South Entrance roadway, between Arena Boulevard and Sports Parkway.
- *East Connection:* 12-inch service in the East Entrance roadway, between Truxel Road and Sports Parkway.

There also is a 12-inch line within Five Star Way, south of Del Paso Road and approximately 1,000 feet west of Truxel Road. This line stops at the northeast corner of the project area, as existing surface improvements along Five Star Way stop before entering the project area. The proposed Innovation Park PUD would include a public water distribution system that would be located in the street system throughout the project area, beginning with a loop in Sports Parkway. Where feasible, existing water infrastructure serving the project area would be connected to the new public water mains for the project area. In addition to the three existing services listed above, which would connect the exterior roads to the Sports Parkway loop, the existing 12-inch line in Five Star Way would extend southward to connect to the proposed Sports Parkway loop.



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SOURCE: Stantec, 2021

Innovation Park PUD

Figure 2-17
Proposed Water Infrastructure

ESA

Wastewater

Wastewater generated in the project area would be collected by the Sacramento Area Sewer District's separated sewer system, then conveyed to the Sacramento Regional County Sanitation District's system and ultimately treated at the district's wastewater treatment plant in Elk Grove. The proposed Innovation Park PUD would have a wastewater collection and conveyance system consisting of sewer lines under streets throughout the project area (**Figure 2-18**).

The existing wastewater conveyance system in the project area is sized to accommodate historic peak usage for previous operations of Sleep Train Arena. This existing conveyance system would be modified and expanded, where required, to accommodate development allowed under the proposed Innovation Park PUD. Under the Innovation Park PUD, individual developments would tie into the project area's conveyance system via service laterals as part of future development proposals.

Stormwater Drainage

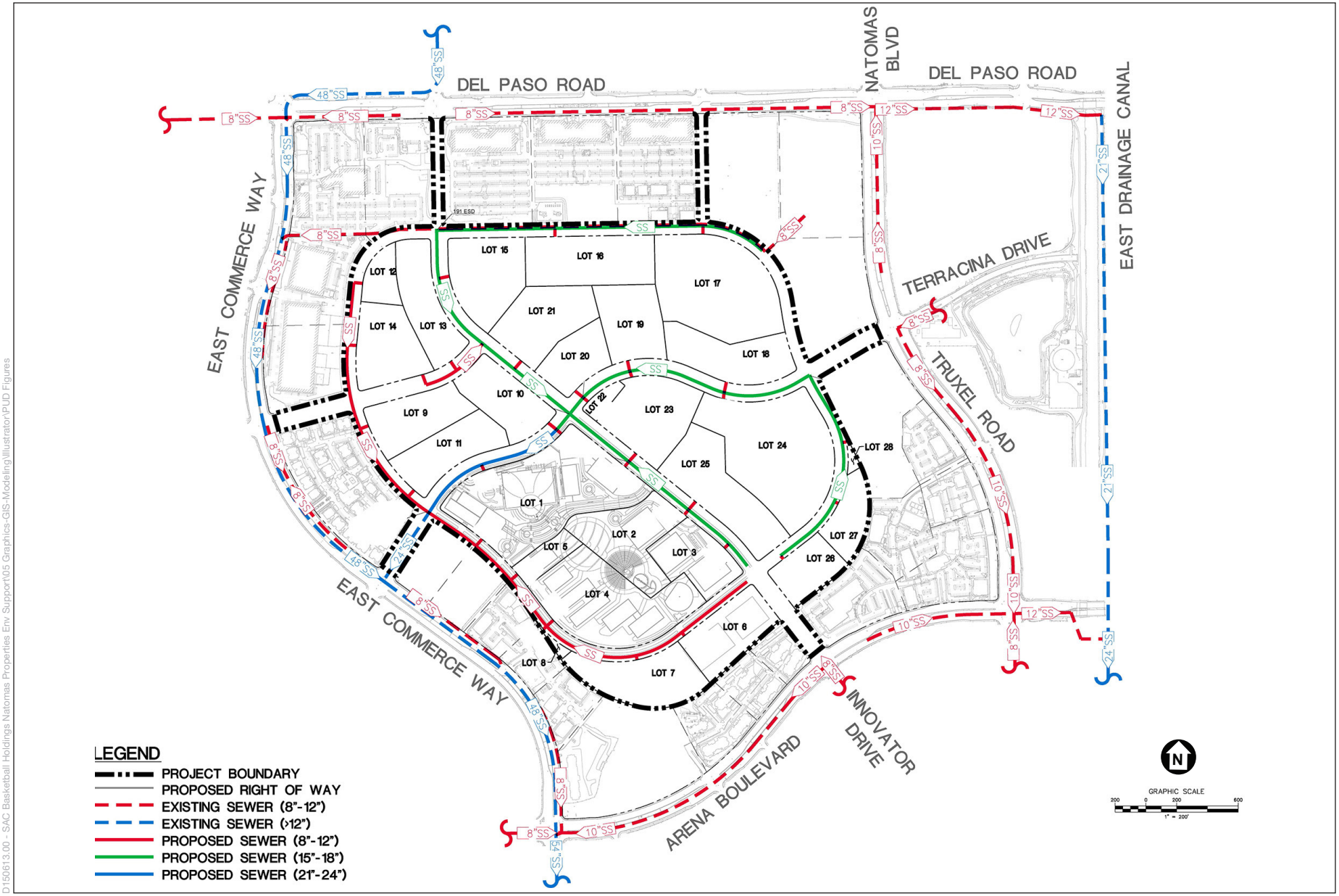
The project area is within Watershed 5 of the North Natomas Drainage Basin system, which collects and treats stormwater from nine watersheds in the developed areas of North Natomas. Watershed 5 generally encompasses an area east of East Commerce Way, south of Del Paso Road, north of Arena Boulevard, and west of the East Drainage Canal; the project area composes the majority of Watershed 5. Stormwater in the project area is currently conveyed to Detention Basin 5-A, located at the southwest corner of Terracina Drive and the East Drainage Canal, where stormwater is treated and then pumped into the East Drainage Canal. The proposed stormwater drainage infrastructure in the project area would be designed to connect to existing drainage infrastructure that drains into Detention Basin 5-A and conveys drainage flows through the existing Basin 5 drainage and treatment pathways (**Figure 2-19**). Onsite grading would result in managed stormwater flows (**Figure 2-20**).

The existing Watershed 5 storm drain system consists of pipes ranging from 12 inches to 96 inches to drain the entire Watershed 5 to Basin 5-A. Existing drainage from the project area connects via a 60-inch connection on the southern edge of the project area, and an 84-inch pipe on the eastern edge of the project area. These connections would remain as connection points for the proposed Innovation Park PUD.

Energy

Electrical Service

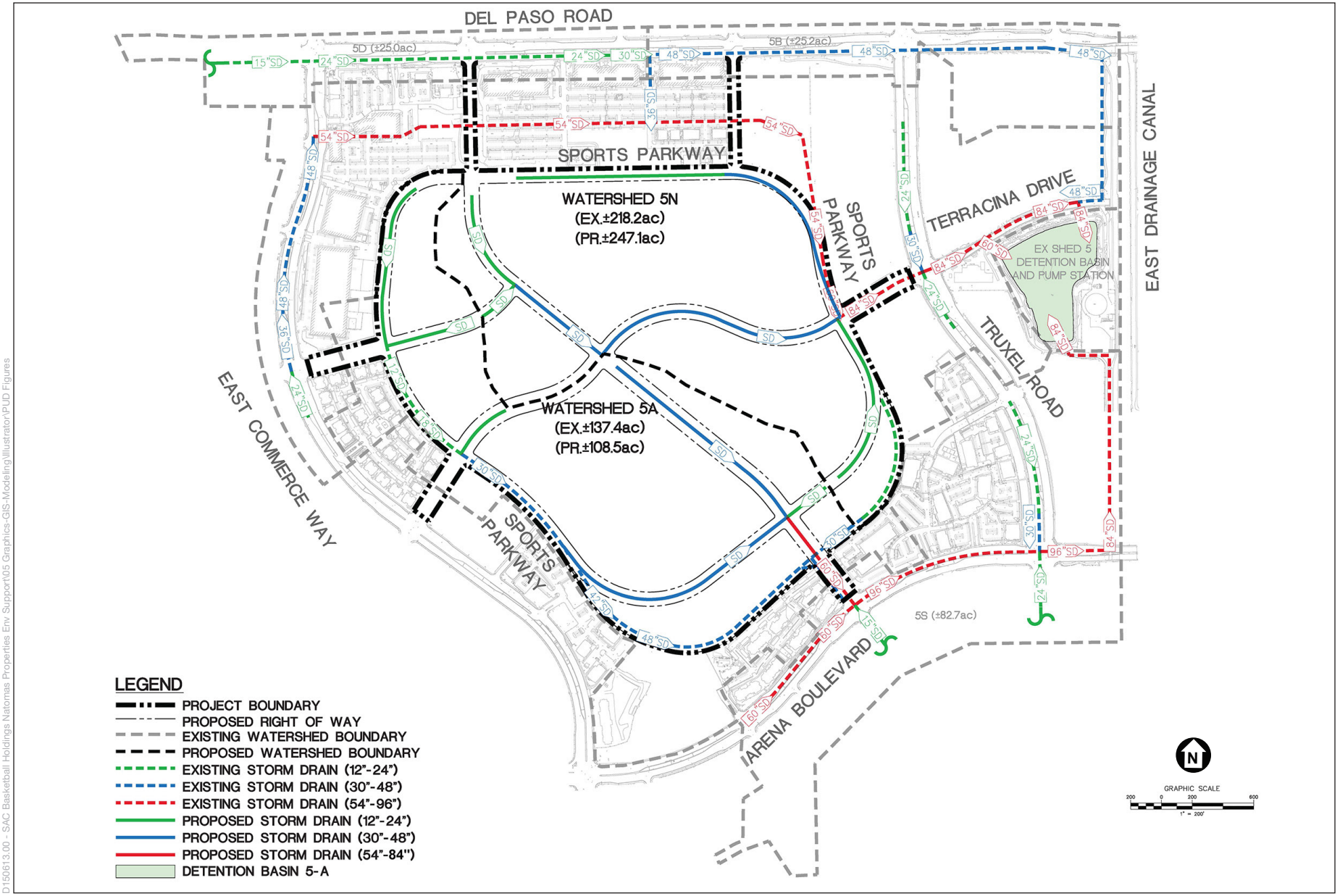
The project area's electrical demands would be provided by Sacramento Municipal Utility District (SMUD). The project area has existing electrical infrastructure that serves the Sleep Train Arena building and supporting structures. SMUD has indicated that a new electrical substation would be required to serve development within the project area. A SMUD substation is planned in the northwest portion of the PUD area. This substation would serve uses within the Innovation Park PUD area. In addition, as described above, existing infrastructure would be utilized and expanded to serve the rest of the project area as necessary.



SOURCE: Stantec, 2021

Innovation Park PUD

Figure 2-18
Proposed Wastewater Infrastructure



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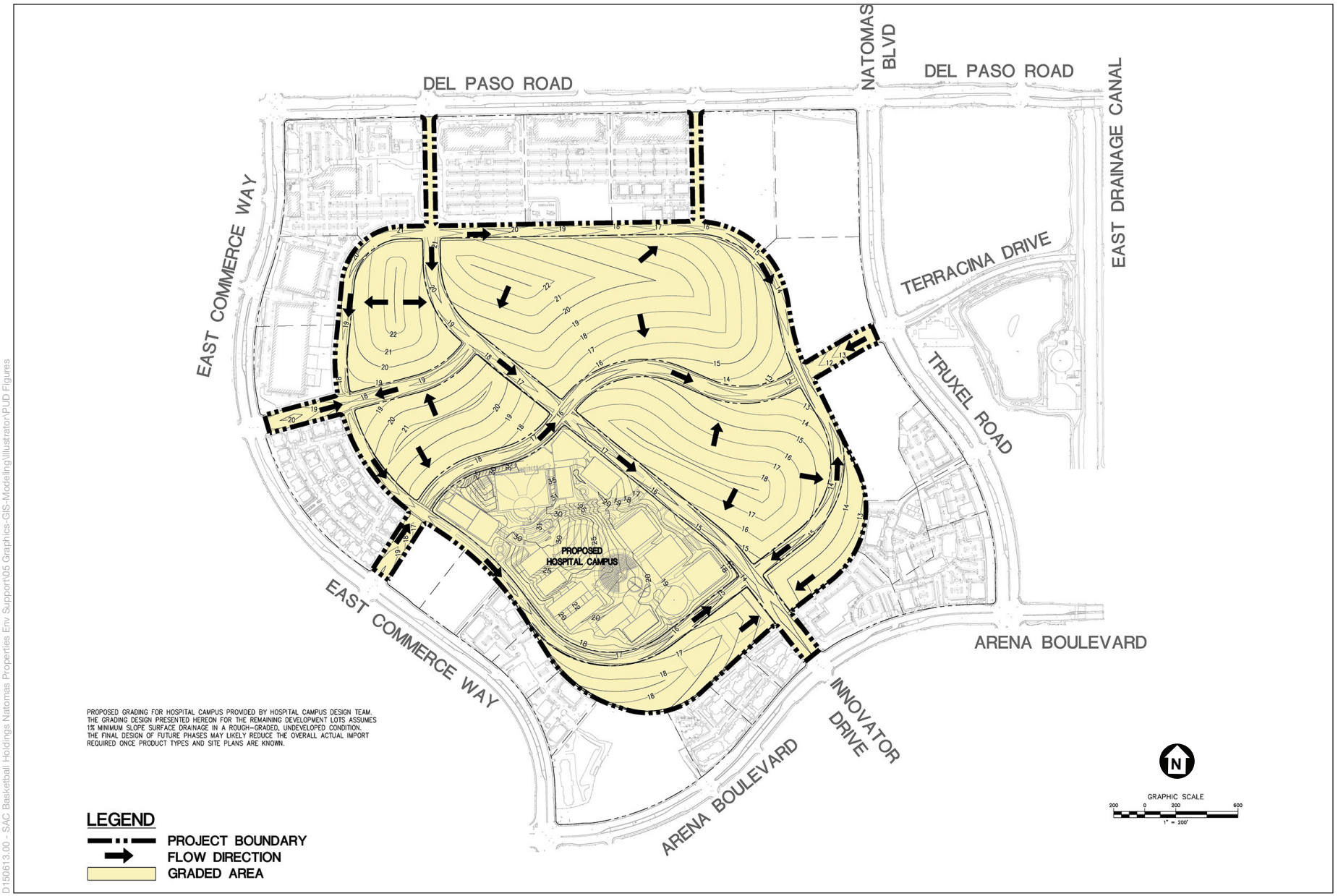
SOURCE: Stantec, 2021

Innovation Park PUD

Figure 2-19
Proposed Stormwater Infrastructure

ESA



D150613.00 - SAC Basketball Holdings Natomas Properties Env Support\05 Graphics-GIS-Modeling\Illustrator\PUD Figures

SOURCE: Stantec, 2021

Innovation Park PUD

Figure 2-20
Proposed Grading Plan

ESA

The following description generally summarizes the requirements for new SMUD distribution substations, such as the one that will be located within the Innovation Park PUD area. While exact design specifications are not available, this summary provides a good faith effort at evaluating the size, capacity, infrastructure, and design of the distribution substation to analyze the potential environmental impacts associated with the infrastructure. The proposed substation would be approximately 1.5 acres in size and would be energized by connecting to 69,000 volts (69 kV) subtransmission lines that are supplied by existing SMUD Bulk Substations. Bulk substations typically step-down transmission line voltage of 230,000 volts (230 kV) to subtransmission voltage of 69 kV through power transformers. The distribution substation would in turn step down the electricity supply to 12,000 volts (12 kV) for delivery to residential neighborhoods. The proposed distribution substation would include approximately two transformers, eight capacitor banks, two backup battery systems, two metal clad switchgears, and two poles with a disconnect switch. The substation would require an access road of at least 20-feet wide if the access roads are straight, and 24-foot wide if there are turns. The proposed distribution substation would receive electricity from existing overhead 69-kV subtransmission lines on the north side of the PUD area, to the proposed substation location in the northwest corner of the PUD area. Infrastructure and appurtenances for the 12kV distribution supplied by the substation will be located either within the public roadway right-of-way or within a public utility easement adjacent to the public roadway. SMUD's standard construction for sub-transmission lines is overhead construction with poles that if pole-mounted would be approximately 65-feet tall. The distribution substation would distribute electricity via underground and/or overhead 12- kV lines to neighborhoods. Construction of the proposed distribution substation would occur over a 1-year period.

To maintain security and public safety, a minimum 10-foot fence would be installed around the perimeter of the proposed substation site. SMUD would work with the City to determine the most appropriate landscaping and screening improvements. Lighting would be included as required by the National Electrical Safety Code for substation operation. The installed lighting system would be designed for purposes of nighttime operations and maintenance and would be oriented to minimize glare onto surrounding property.

Natural Gas Service

The project area would be provided with natural gas by Pacific Gas and Electric Company (PG&E), which provides service to the city of Sacramento through both high- and low-pressure systems. The project area has existing natural gas infrastructure that serves the Sleep Train Arena building and supporting structures. A PG&E facility, such as a vault or additional infrastructure, could be accommodated within the project area if needed to serve the project. As described above, existing infrastructure would be utilized and expanded to serve the rest of the project area as needed.

Telecommunications

The project area would acquire telephone and data service from existing carrier(s) that are established in North Natomas. Connections would be completed in telephonic and data manholes, constructed within existing or proposed roadways. Individual project applicants would be required to coordinate with the City and other utility providers to determine optimal solutions for gaining access to adjacent lines, potentially including open cuts or directional drilling that could

be done in telephonic and data manholes concurrent with other utility infrastructure connections. If feasible, service to the project area and subsequent individual developments under the proposed Innovation Park PUD would be coordinated with SMUD in common joint trenches.

2.4.7 Enhanced Infrastructure Financing District

The applicant has requested that the City of Sacramento consider formation of an Enhanced Infrastructure Financing District (EIFD) to finance the construction of some infrastructure components that are studied in this EIR. The City is working with the applicant to analyze the potential EIFD.

2.4.8 PUD Construction

Buildout of the Innovation Park PUD is anticipated to occur over approximately 16 years, beginning in 2022 through 2038. As part of PUD construction, demolition of the existing Sleep Train Arena would occur. This action is anticipated to occur prior to development of the CNU Medical Center. Construction in the PUD area would occur in response to market conditions.

2.5 California Northstate University Medical Center

This Draft EIR also includes consideration of a currently proposed project within the proposed development area for the Innovation Park PUD: the CNU Medical Center. This project is described below, including the CNU Medical Center project site; physical characteristics of the development program; operational characteristics, such as hours of operation and employment; and construction characteristics.

CNU is a private education institution that operates two physical locations in the region. One campus is located at 9700 West Taron Drive in Elk Grove. This campus includes CNU's College of Medicine, College of Pharmacy, College of Dental Medicine, and a 15,000-square-foot (sf) event center. A second campus is located at 2910 Prospect Park Drive in Rancho Cordova and accommodates CNU's College of Health Sciences.

CNU is proposing to provide emergency and other medical-related services in the Sacramento region by developing a hospital and medical campus within the proposed Innovation Park PUD area. Over time, the proposed CNU Medical Center may relocate the existing medical schools and facilities from their existing locations in Elk Grove and Rancho Cordova to the project area. When fully developed, the proposed CNU Medical Center would include the following elements:

- A 420-inpatient-bed hospital with a helicopter landing site (helistop) to support trauma operations (Level II following certification).
- An outpatient clinic.
- A medical office building.
- Three parking structures with accessory retail.
- Three university buildings.
- Two student dormitories.

- Two faculty/staff residential buildings.
- A senior housing facility.
- A multi-use facility with daycare, sports facilities, and campus amenities.
- A central plant and mechanical yard to support the hospital and medical uses
- Two buildings for the manufacture of pharmaceuticals with limited laboratory uses.
- Public paths and gathering spaces for low-impact exercise and social interaction
- Vehicular and bicycle parking in structures and lots to support the variety of uses on the CNU Medical Center campus.

In total, the proposed CNU Medical Center would develop approximately 3.6 million sf of new uses on a campus that would be constructed in phases over approximately 10 years. The proposed CNU Medical Center would generate approximately 7,420jobs at buildout and would be expected to attract approximately 21,780 students and/or visitors annually. When fully developed, the hospital would consist of 730,000 sf and approximately 420 total patient beds. The CNU Medical Center's dormitories would include 300 units to house 600 students, the faculty/staff residential buildings would provide 200 units that could house 200 faculty/staff members and their families, and the active senior living building would accommodate approximately 120 residents in 100 units. The CNU Medical Center would also include buildings used for education and instructional uses, pharmaceutical manufacturing, laboratories and research, and administrative functions.

2.5.1 Project Location

The proposed CNU Medical Center would be located on approximately 35.6 acres (Parcel D) and 10.4 acres (Parcel D-1) in the southwest portion of the project area (**Figure 2-21**). The CNU Medical Center campus would be generally situated between Innovator Drive to the east, B Street to the north, and Sports Parkway/C Street to the west and south.

2.5.2 CNU Medical Center Development Plan

The CNU Medical Center is anticipated to be developed in phases, as described below. This EIR analyzes full buildout of the CNU Medical Center regardless of anticipated phase of development. At buildout, the CNU Medical Center campus would consist of 18 buildings divided into four distinct zones:

- **Medical Zone**: Generally comprising the hospital, central plant, an ambulatory care building, a medical office building, and associated parking and retail uses.
- **University Zone**: University teaching, laboratory, and administration buildings, and associated parking.
- **Faculty/Student Housing Zone**: Dormitory buildings, and buildings to provide housing for faculty and administrators.
- **Research and Laboratory Zone**: Buildings containing laboratories and pharmaceutical research, development, and manufacturing.

Table 2-3 provides details of each of the buildings proposed for each these zones.

TABLE 2-3
SUMMARY OF CALIFORNIA NORTHSTATE UNIVERSITY MEDICAL CENTER PROJECT

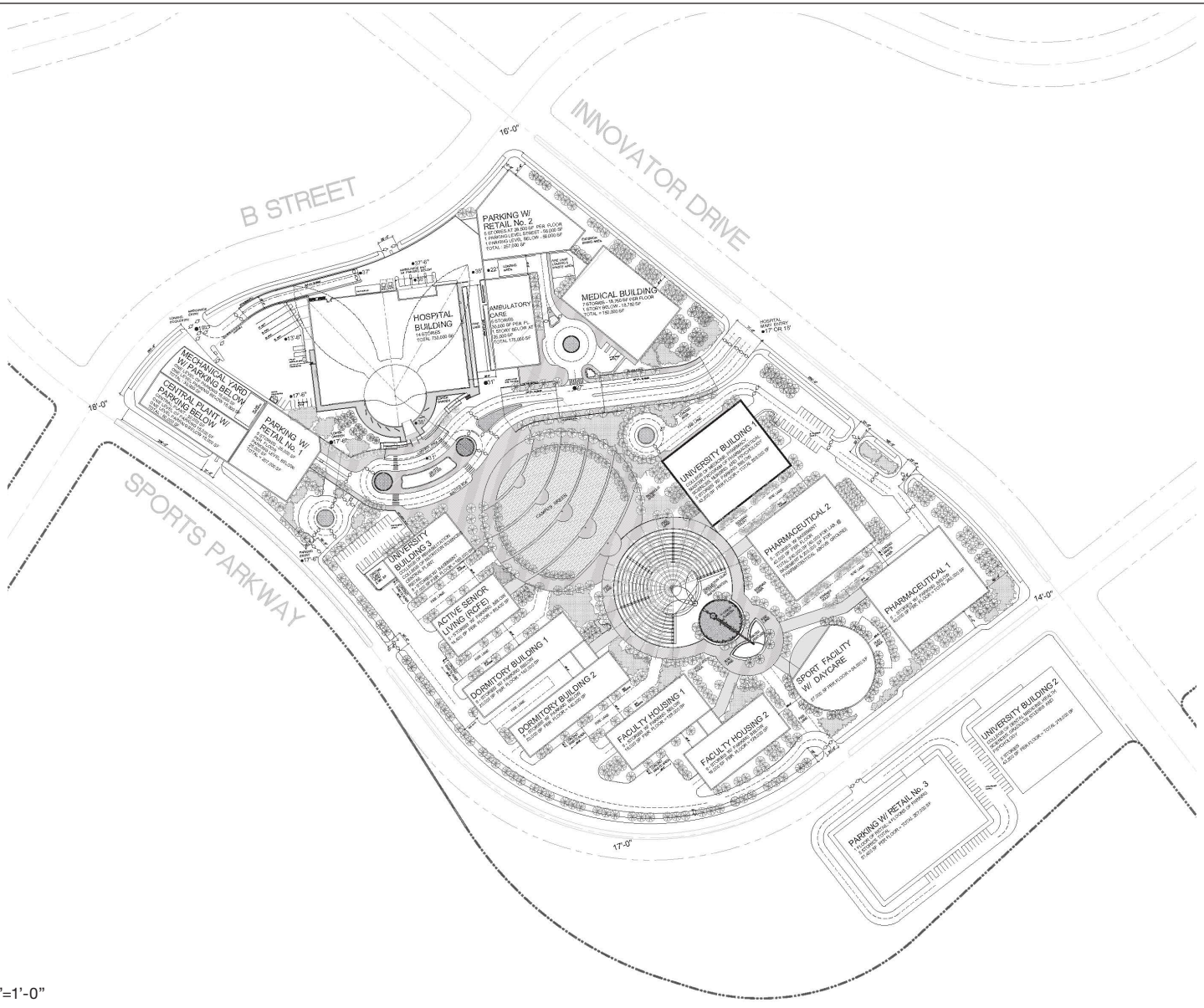
Proposed Facility	Total Building Area (sf)	Floors	Basement Levels	Total Levels
Medical Zone	1,609,000			
Hospital Building	730,000	14		14
Central Plant Building	90,000	2	1	3
Ambulatory Care Building	175,000	5	1	6
Medical Building	150,000	7	1	8
Retail with Parking Building 1	207,000	7	1	8
Retail with Parking Building 2	257,000	6	1	7
University Zone	918,000			
University Building 1	256,000	5	1	6
University Building 2	216,000	5		5
University Building 3	189,000	6	1	7
Retail with Parking Building 3	257,000	5		5
Faculty/Student Housing Zone	672,400			
Admin/Dormitory Building 1	140,000	6	1	7
Admin/Faculty Building 1	126,000	6	1	7
Admin/Dormitory Building 2	140,000	6	1	7
Admin/Faculty Building 2	126,000	6	1	7
Sports Facility with Daycare Building	54,000	2		2
Active Senior Living (RCFE) Building	86,400	5	1	6
Research/Laboratory Zone	480,000			
Laboratory/Pharmaceutical Building	240,000	5	1	6
Pharmaceutical Building	240,000	5	1	6
Total CNU Medical Center	**3,679,400**			

NOTES: CNU = California Northstate University; RCFE = residential care facility for the elderly; sf = square feet

SOURCE: Data compiled by Fong & Chan Architects in 2021.

Phasing

The proposed CNU Medical Center would be constructed in three phases. During Phase 1, generally from 2022 to 2026, the main hospital and associated central plant and parking would be constructed in the Hospital Zone, along with the initial buildings in the University and Research/ Laboratory Zones (**Figures 2-22 and 2-23**).



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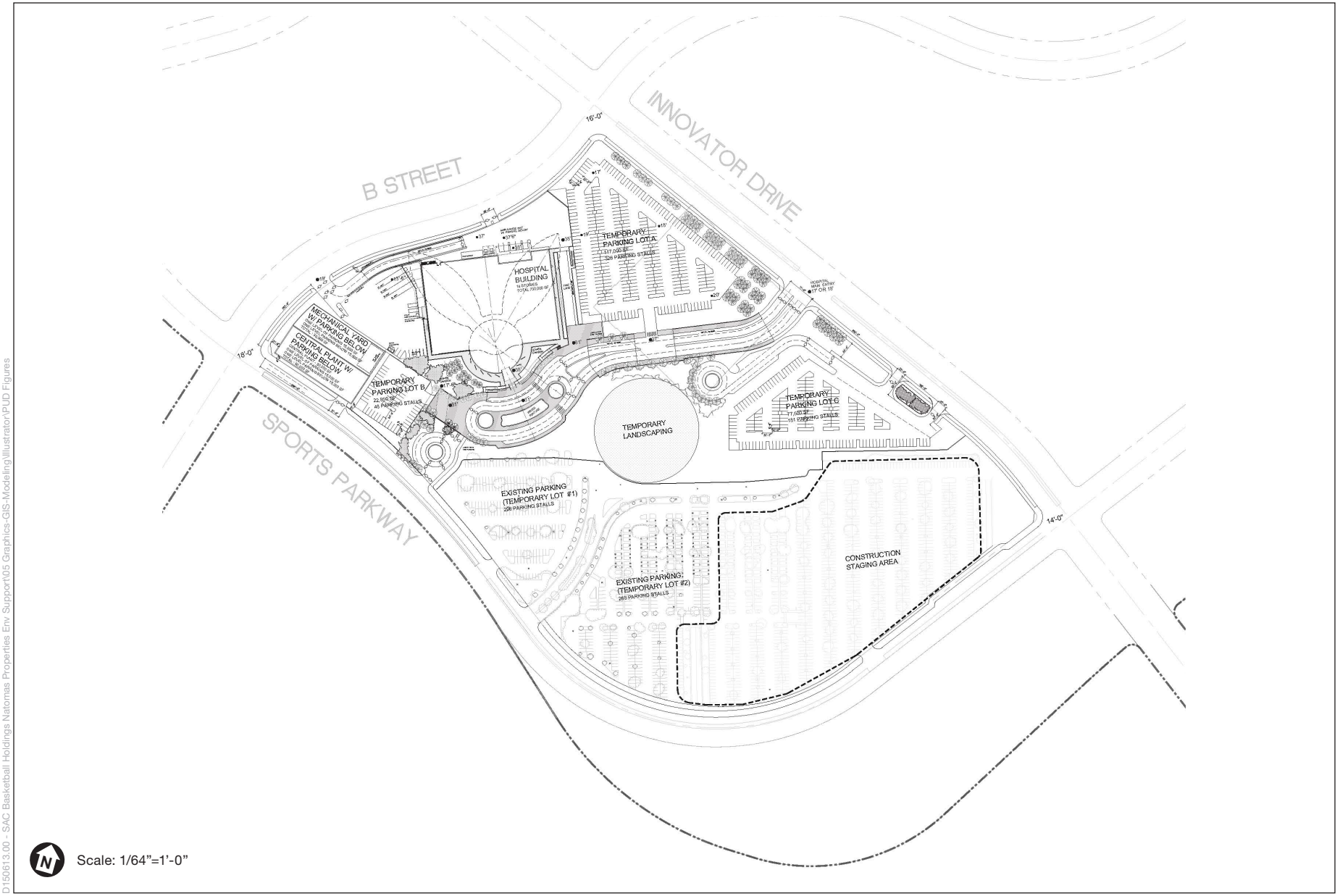
D150613.00 - SAC Basketball Holdings Natomas Properties Env Support\05 Graphics-GIS-Modeling\Illustrator\PUD Figures

SOURCE: Fong & Chan Architects, 2021

Innovation Park PUD

Figure 2-21
CNU Medical Center Overall Site Plan

ESA



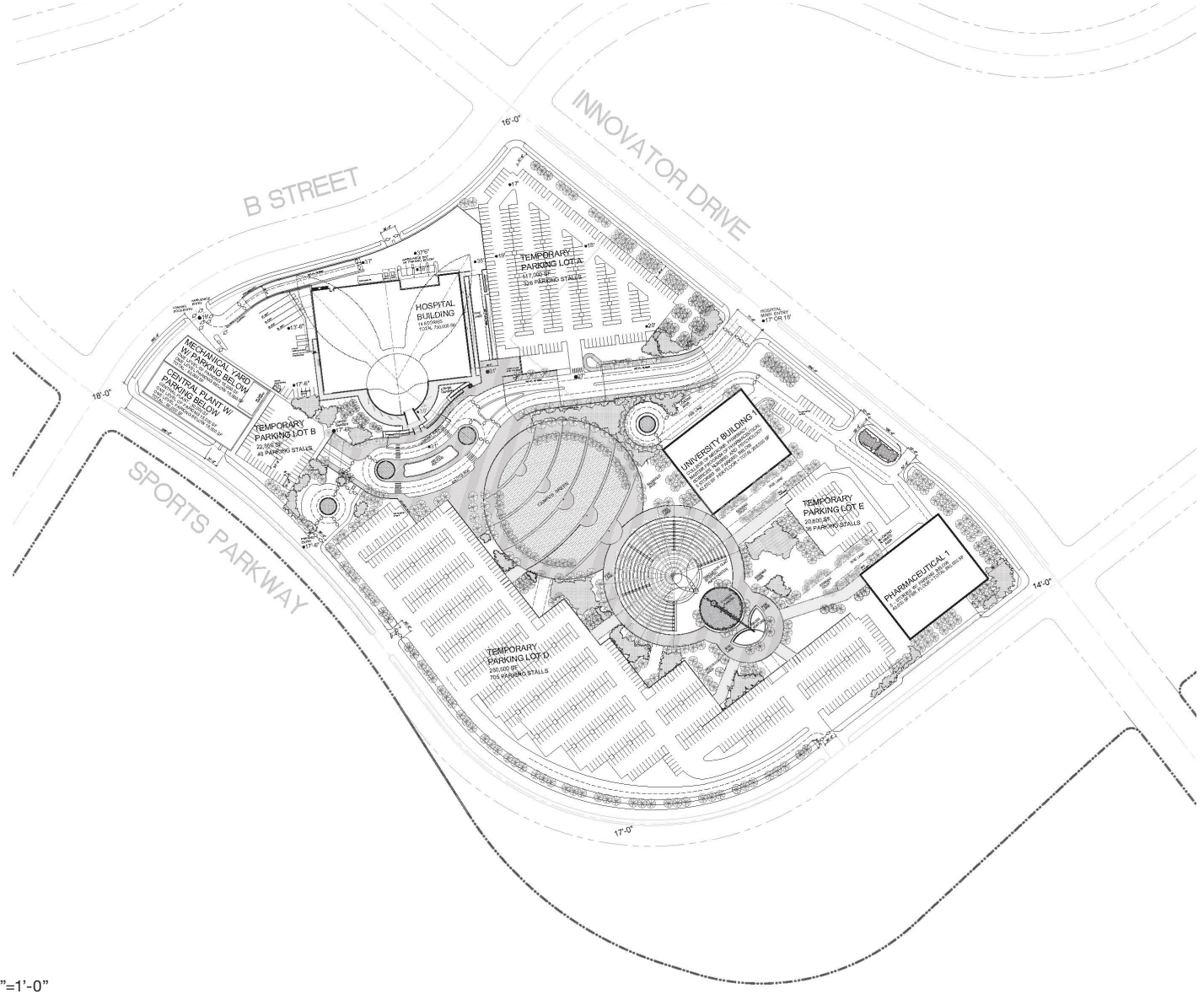
D150613.00 - SAC Basketball Holdings Natomas Properties Env Support\05 Graphics-GIS-Modeling\Illustrator\PUD Figures

SOURCE: Fong & Chan Architects, 2021

Innovation Park PUD

Figure 2-22
CNU Medical Center Site Plan, Phase 1A

ESA



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SOURCE: Fong & Chan Architects, 2021

Innovation Park PUD

Figure 2-23
CNU Medical Center Site Plan, Phase 1B

ESA

Starting in 2025 and continuing until 2029, Phase 2 would involve buildout of the shelled spaces of the hospital (constructed during Phase 1) and construction of the other major medical buildings, along with two of the retail/parking buildings in the Medical Zone (**Figure 2-24**). The University Zone would be expanded with a second university building, and construction in the Faculty/Student Housing Zone would be initiated with the addition of the first buildings for housing of students, faculty, and administrative staff, as well as a daycare facility. Another laboratory/pharmaceutical building would complete the Research/Laboratory Zone.

Construction of Phase 3 is anticipated to start in 2028 and to be completed by 2032. This phase would add the final retail and parking building in the Medical Zone, the final university and retail/parking buildings in the University Zone, construction of the senior care residential building, and the final additional housing buildings and sports building in the Student/Faculty Housing Zone (**Figure 2-25**).

A more detailed description of the phasing and proposed buildings is presented below.

Phase 1

Phase 1 of the CNU Medical Center would involve the construction of 1,218,000 sf of space, undertaken in two distinct subphases. An initial Phase 1A would include construction of the hospital and associated central plant and parking, with a total square footage of 722,000 sf in the Medical Zone. Phase 1B would include a total of 496,000 sf in the University and Research/ Laboratory Zones.

Hospital

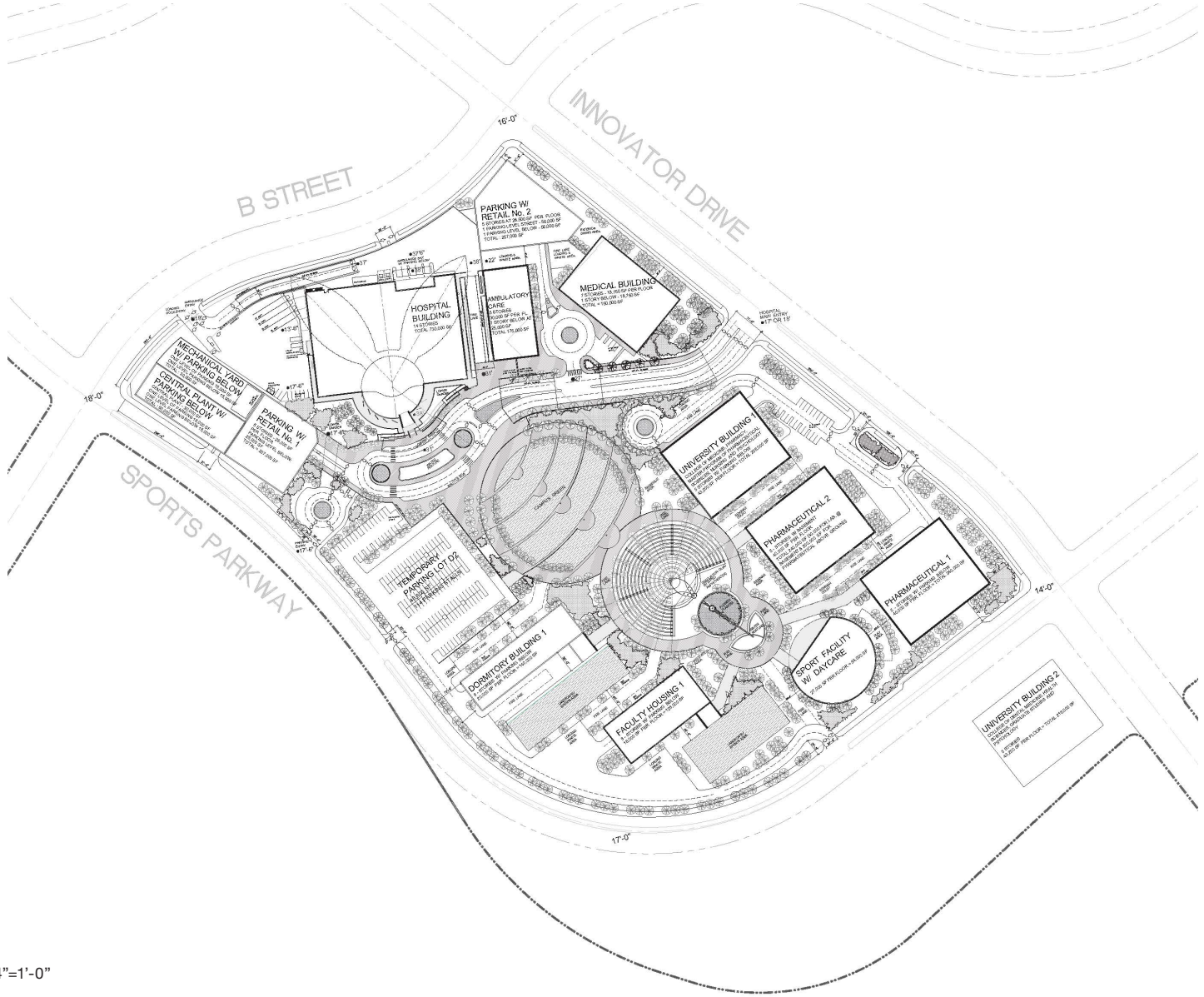
The hospital building would include 14 stories, including a ground-level medical clinic level, 12 stories for hospital functions and a mechanical level. The building would be approximately 730,000 sf in size, with approximately 420 patient beds at full buildout. The initial submitted phase would contain 263 patient beds.

The ground level medical clinic is the lowest floor with an 84,000-sf floor plate area.

The hospital would comprise a nine-story central tower and two seven-story patient-bed wings with a floor plate area of 48,000 sf atop a three-story, main hospital podium with an 84,000-sf floor plate area. Hospital administration would be housed on the top level of the central tower. There is a helistop on a roof level of the East Patient Bed Tower.

The highest point of the building would be the central tower crown approximately 280-feet above ground level (elevation of 297 feet North American Vertical Datum of 1988).

- **Diagnostic and Treatment Podium:** This component would consist of a four-story podium including the ground-floor medical clinics. The ground-floor medical clinics would not be required to be above the flood plain level. There would be a fourth-floor transitional level with the cafeteria, the kitchen, and a mechanical floor level. The total area of the ground-floor medical clinics, diagnostic and treatment podium, and fourth-floor transitional level would be approximately 383,300 sf.



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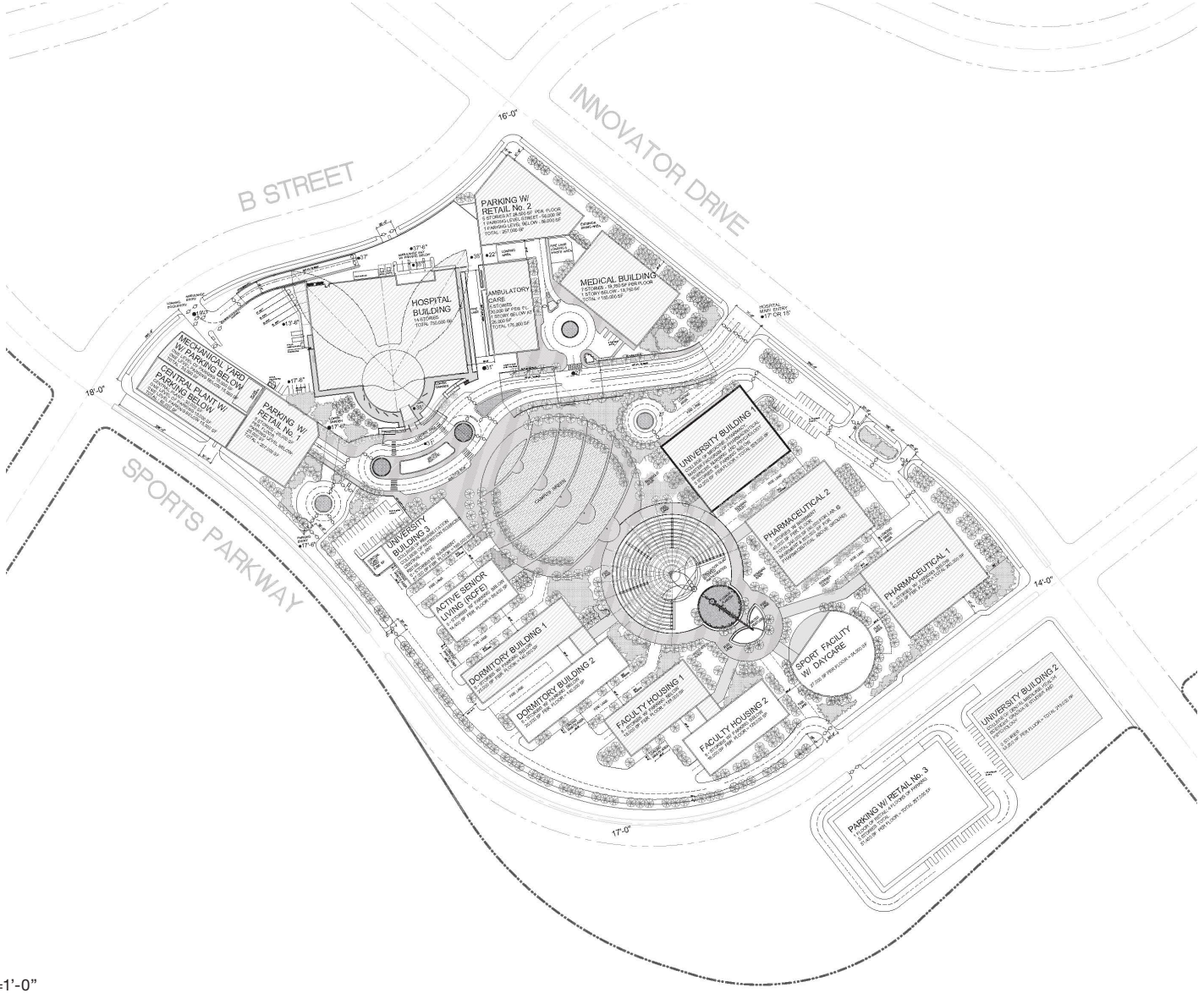
SOURCE: Fong & Chan Architects, 2021

Innovation Park PUD

Figure 2-24
CNU Medical Center Site Plan, Phase 2

ESA



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SOURCE: Fong & Chan Architects, 2021

Innovation Park PUD

Figure 2-25
CNU Medical Center Site Plan, Phase 3

ESA

- **West Patient Bed Tower:** The west patient bed tower building would be seven stories in height, starting at the fifth floor and rising to the 12th floor, and would occupy approximately 208,900 sf. The west patient bed tower would include the central vertical circulation tower. The west patient bed tower would be built on top of the diagnostic and treatment podium and would contain approximately 207 patient beds.

- **East Patient Bed Tower:** The east patient bed tower building would be seven stories in height, starting at the fourth floor, and would be approximately 137,200 square feet. The east patient bed tower would be built on top of the diagnostic and treatment podium and would contain approximately 56 patient beds on two floors. For structural purposes, the structural shell of the east patient bed tower would be fully constructed during construction of Phase 1. Five floors (floors 6 through 10), occupying 98,000 sf, would be shelled for future completion during Phase 2.

The hospital building would house all acute-care services and required support space for the CNU Medical Center, including the following departments or units:

- Imaging
- Cardiology
- Perioperative Services
- Urgent Care and Emergency Department
- Obstetrics
- Neonatal Intensive Care Unit
- Pediatrics
- Intensive and Coronary Care Unit suites
- Step-down patient care units
- Medical/surgical nursing units
- Concierge-level nursing units
- Pharmacy Department
- Clinical labs
- Sterile Processing Department
- Other ancillary support spaces
- Utility rooms

Primary access to the hospital and the other medical buildings in the campus's Medical Zone would be from Innovator Drive, approximately midway between Sports Parkway and B Street. The main entry road would be a four-lane facility that would rise about 14 feet between the intersection with Innovator Drive and the hospital entrance.

The hospital's ambulance and service and delivery entrances would be on B Street, approximately 203 feet east of Sports Parkway. The hospital's ambulance bay would be located on the north side of the hospital, facing toward B Street, and would be accessed via an approximately 256-foot-

long ambulance entry road that would rise at a grade of approximately 7 percent from about elevation 19 feet msl at B Street to 38 feet msl at the hospital's ambulance bays.

The hospital building would include telecommunications equipment for use by emergency personnel such as the Sacramento Police Department.

Figures 2-26 and 2-27 provide architectural renderings of the hospital building.

Helistop

A helistop would be constructed on the roof of the patient-bed wing of the hospital tower. The helistop would be used exclusively for the transfer of patients and medical staff from one site to another; it would not serve as a permanent base for air ambulance vehicles, and no fueling, service, long-term parking, or storage of helicopters or related equipment would occur at the CNU Medical Center site.

The design of the helistop and the flight paths to and from the CNU Medical Center are regulated by the FAA. (See Chapter 4 of FAA Advisory Circular 150/5390-2B, September 2004.) The proposed helistop would be designed to accommodate aircraft similar to the Airbus H135 helicopter model. Anticipated flight paths are shown in **Figure 2-28**, although helicopters may fly alternative routes under certain weather conditions or in the case of a life-threatening emergency. The hospital and helistop would be lighted in accordance with FAA Advisory Circular 70/7460-1L Change 2 (Obstruction Marking and Lighting) and FAA Advisory Circular 150/5390-2C (Heliport Design), Chapter 4 (Hospital Heliports), Section 415 (Heliport Lighting), respectively, including but not limited to obstruction lighting, landing pad perimeter lighting, and other related lighting. Helicopters would use typical running lights, which would include red and green right-of-way lights on the sides of the aircraft and a strobe light to indicate the helicopter's position in low-visibility conditions.

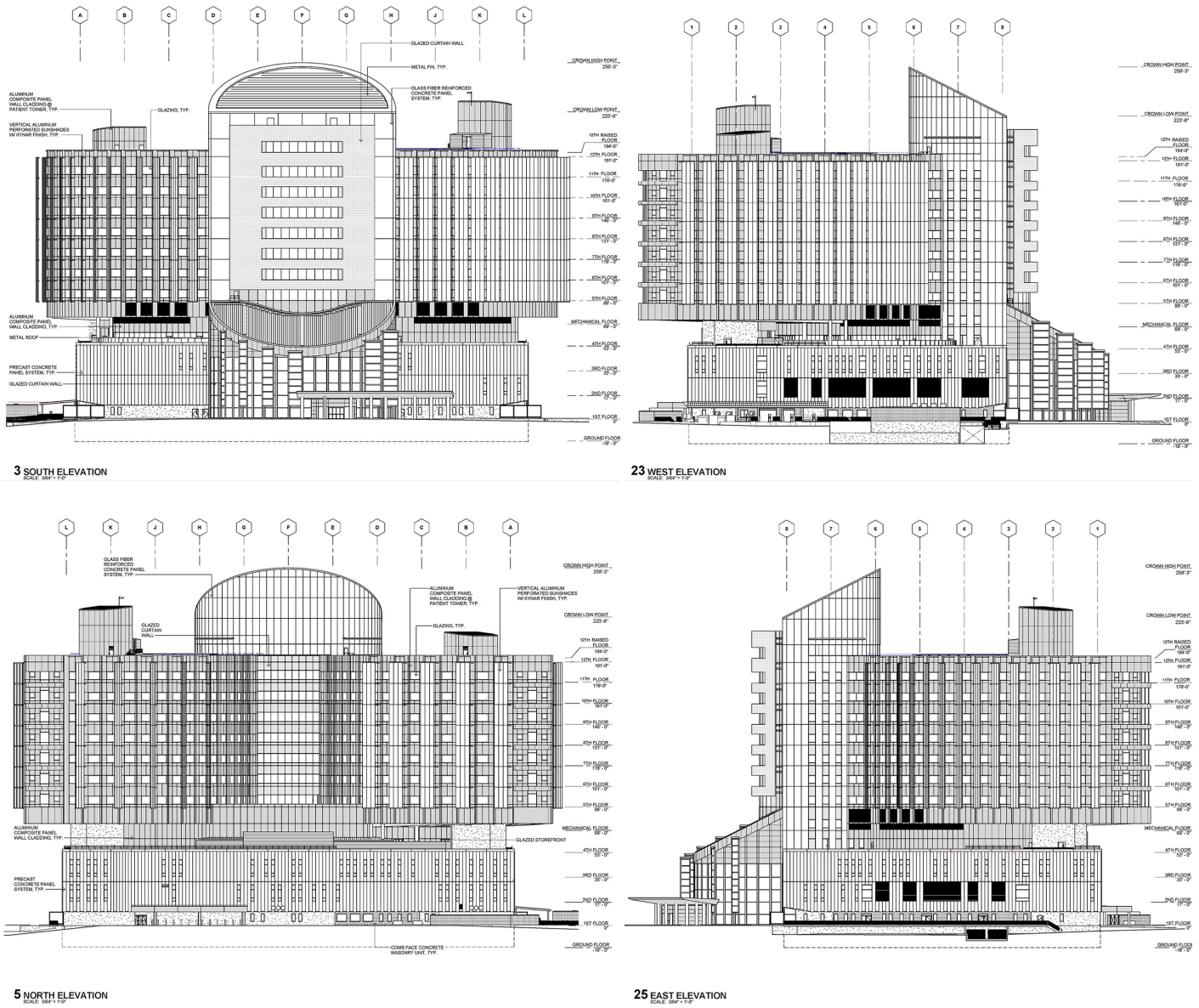
See Figure 2-28 and Appendix G for detailed building plans and the design of the helistop.

Central Plant and Mechanical Yard

The proposed CNU Medical Center's Central Plant Building would be approximately 90,000 gross sf in size, and would consist of the following elements:

- Two levels of Central Plant and support space at 15,000 sf per level, for a total of 30,000 sf.
- 15,000 sf of exterior raised mechanical yard.
- 30,000 sf below grade and 30,000 sf at grade level for parking, for a total of 60,000 sf of parking.

The Central Plant's main level and mechanical yard would be designed to be raised to mitigate against the 200-year floodplain level. The parking levels would include a total of 200 parking spots.



SOURCE: Fong & Chan Architects, 2021

Innovation Park PUD

Figure 2-26
CNU Medical Center Building Elevations

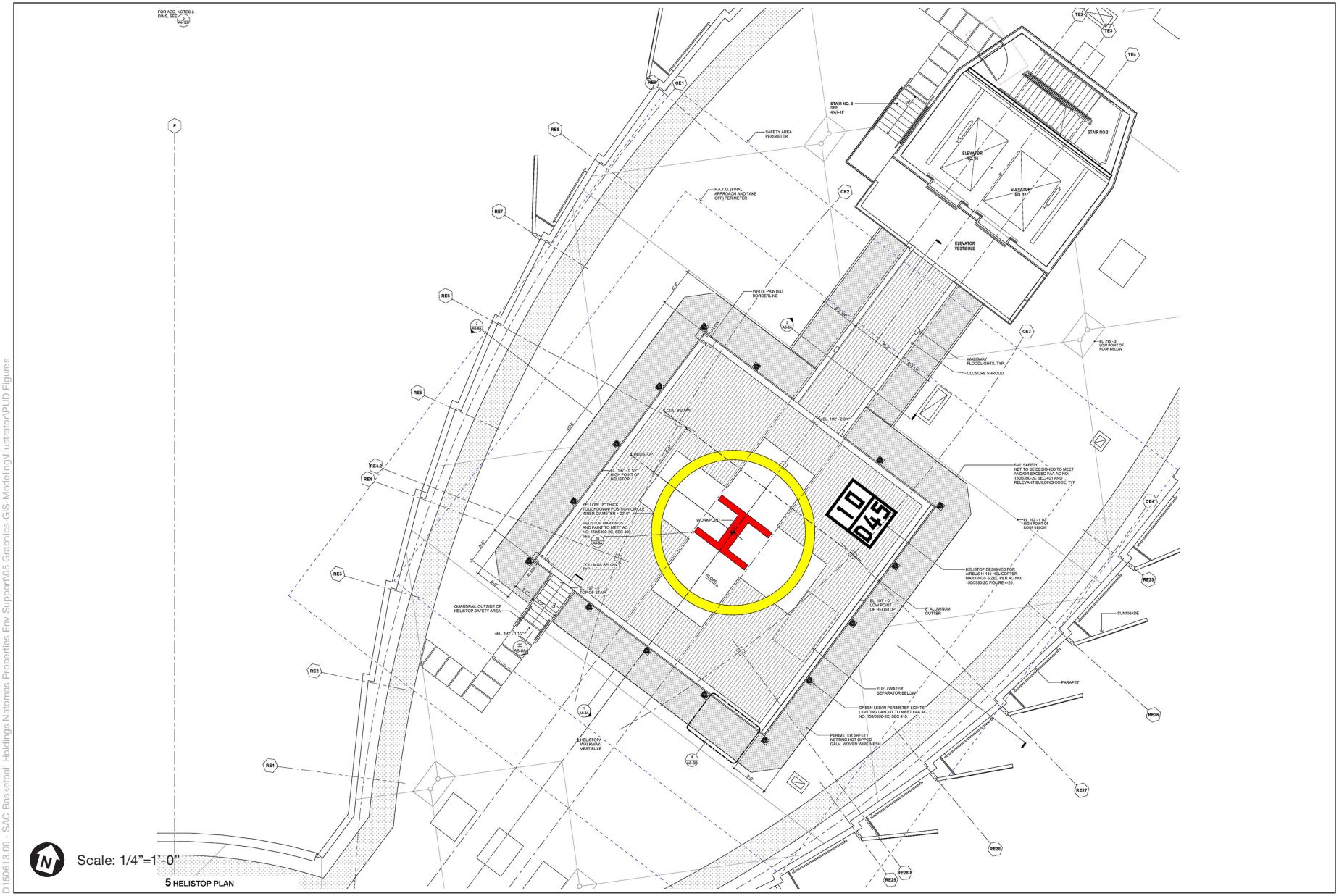
ESA

SOURCE: Fong & Chan Architects, 2021

Innovation Park PUD

Figure 2-27
CNU Medical Center Hospital Rendering, South Elevation

ESA



SOURCE: Fong & Chan Architects, 2021

Innovation Park PUD

Figure 2-28
CNU Medical Center Helistop Plan

ESA

The Central Plant would provide power and heating to the entire CNU Medical Center campus and would include four diesel-powered emergency generators on the second floor. Approximately 90,000 gallons of diesel fuel would be stored in two underground tanks that would be designed to withstand being submerged during a flood event.

University Building 1

University Building 1 would be five stories in height, with a total area of 256,000 sf and a planned footprint of 43,200 sf. The building would include approximately 216,000 sf above grade, and there would be a 40,000-sf, 133-space below-grade parking level. The building would contain classrooms, teaching laboratories, student support services, and administrative uses. The building would also include an auditorium space that could accommodate 950 persons. For graduation ceremonies and as a student amenity, an outdoor amphitheater capable of accommodating up to 2,000 persons would be provided.

Pharmaceutical Building

The Pharmaceutical Building would be approximately 240,000 sf in size, including a below-grade floor for parking. The building would be four stories in height with a planned footprint of 40,000 sf. The building would contain research and manufacturing facilities for pharmaceutical products. It would include space for quality control and testing areas, secured and controlled access storage areas, a loading area, conference rooms, staff support services, and administrative functions. There would be a single below-grade floor designed to accommodate 15,000 sf for administrative functions and loading, and 25,000 sf for a central plant that would support University Building 1 and the Pharmaceutical Building.

The Pharmaceutical Building would be constructed with a clean-room design. A clean room is an enclosed space in which airborne particulates, contaminants, and pollutants (such as dust, airborne organisms, or vaporized particles) are kept within strict limits. The outside air entering a clean room is filtered and cooled by several outdoor air handlers that use progressively finer filters to exclude dust, and the air inside is constantly recirculated through fan units containing high-efficiency particulate-absorbing filters to remove internally generated contaminants. Special lighting fixtures, walls, equipment, and other materials are used to minimize the generation of airborne particles. The air temperature and humidity levels inside the clean room are tightly controlled. Staff enter and leave through airlocks (sometimes including an air shower stage), and wear protective clothing such as hoods, face masks, gloves, boots, and coveralls. This is to minimize the carrying of particulates by the person moving into the clean room. Equipment inside the clean room is designed to generate minimal air contamination. Clean rooms are not sterile (i.e., free of uncontrolled microbes); only airborne particles are controlled.

Pharmaceutical manufacturing produces a deliverable product by turning Active Pharmaceutical Ingredients (API) into a medication or other product. An API generates a desired pharmacological effect. It is mixed with excipients (pharmacologically inactive substances) to create the form of delivery, such as a pill or injection. Pharmaceutical manufacturing at the CNU Medical Center would be used for two purposes: researching new uses for existing APIs, and converting APIs into injectable medications.

The Pharmaceutical Building would have three secure areas for storing pharmaceutical ingredients. One area would be used to store incoming APIs. Another area would be used to fully manufacture medication. The third area would be where completed, tested, and U.S. Food and Drug Administration–authorized medication is stored and distributed.

Parking in Phase 1

Vehicular Parking

In total, 3,934 parking spots are planned for Phase 1. Of these, 449 parking spots would be structured parking and 1,057 parking spots would be in surface parking lots. For Phase 1,110 parking spaces, more than 6 percent of all spaces, will have be designated as EV installed and have access to a charging station. One hundred eighty three (183) Parking Spaces, over ten percent of all spaces will be considered EV capable (inclusive of the EV Installed spaces) and would be preferred parking for green vehicles.

Bicycle Parking

Bicycle Long Term Parking: A planned total of 393 bicycle long term parking spots are planned for Phase 1. A total of 293 bicycle long term parking spots will be surface spots. A total of 100 bicycle long term parking spots will be structured spots. E-Bike charging stations would also be provided.

Bicycle Short Term Parking: A planned total of 71 bicycle short term parking spots are planned for Phase 1B. All the bicycle parking spots would be surface spots.

Phase 2

The construction of Phase 2 is anticipated to be initiated before the final completion of Phase 1. This phase would continue expansion and development in the Medical Zone, further the development of the University Zone, complete the development of the Research/Laboratory Zone, and initiate construction in the Faculty/Student Housing Zone. In total, Phase 2 would involve the construction of 1,622,500 sf of space.

Hospital

Phase 2 would include internal buildout of the east patient-bed tower shell (98,000 sf) connected to the central tower atop the four-story main hospital podium (Figure 2-24). During Phase 2, the shelled floors of the east patient bed tower would be completed and the total patient bed count would increase by 157 beds, to a total of 420 patient beds with a total area of approximately 730,000 sf.

Ambulatory Care Building

The Ambulatory Care Building would be located immediately east of the CNU Medical Center hospital, and would be 175,000 sf in size and five stories in height with a planned footprint of 30,000 sf and a 25,000-sf basement level. This building would contain outpatient medical services and other support areas. Specific departments and programs would be determined at a later date.

Medical Building

The Medical Building would be located in the Medical Zone, along Innovator Drive just north of the main entry to the campus. It would be approximately 150,000 sf in size and seven stories in height, including a basement level, with a planned footprint of 18,750 sf. This building would contain medical services and hospital administration.

Retail with Parking Building 1

Retail with Parking Building 1 would be located on the western edge of the Medical Zone, adjacent to the Central Plant, along Sports Parkway south of B Street. The parking structure portion of the building would be 207,000 sf in size and would contain approximately 430 parking spaces. The building would be five stories in height with one basement level and would include 26,000 sf of first-floor retail, food service, and other supporting uses.

Retail with Parking Building 2

Retail with Parking Building 2, the final building constructed in the Medical Zone, would be located at the intersection of Innovator Drive and B Street. The parking structure would be 257,000 sf in size and would contain approximately 760 parking spaces. The building would have five floors with a footprint of 29,000 sf, and two parking levels of 56,000 sf at and below grade. The parking structure would include 29,000 sf of first-floor retail and medical retail services.

University Building 2

University Building 2 would be located at the southern end of the campus, south of Sports Parkway and immediately west of Innovator Drive. This university building would be a five-story building with approximately 216,000 sf of space and a planned footprint of 43,200 sf. The building would contain classrooms, teaching laboratories, student support services, an auditorium, and administrative functions.

Admin/Dormitory Building 1

Located in the Faculty/Student Housing Zone, Admin/Dormitory Building 1 would be a residential building of approximately 140,000 sf, five stories in height with a basement level, and a planned footprint of 20,000 sf. The building would provide approximately 150 units housing 300 students on five floors. The first floor would include 20,000 sf of administration and student support space. A below-grade parking level would include approximately 67 parking spaces.

Faculty Housing Building 1

Also in the Faculty/Student Housing Zone, Faculty Housing Building 1 would be approximately 126,000 sf, six stories in height with an additional basement level, and would have a planned footprint of 18,000 sf. The building would provide approximately 100 units housing 100 faculty families on four floors. The first floor would include 18,000 sf of administration and faculty support space. There would be a below-grade parking level with approximately 60 spaces.

Daycare Facility Building

At the southern end of the Faculty/Student Housing Zone, along Sports Parkway, the Daycare Facility Building would be approximately 13,750 sf and one story in height with a secure outdoor space of 3,000 sf. The building could accommodate up to approximately 175 children and 30 staff

members at the facility. The building would be designed for expansion of the daycare facility by another 13,750 sf during Phase 3 (see below).

Laboratory/Pharmaceutical Building

The Laboratory/Pharmaceutical Building would be approximately 240,000 sf in size, including a below-grade floor for administrative functions, loading, and 83 parking spaces. The building would be five stories in height with a planned footprint of 40,000 sf. The building would contain research and development facilities for pharmaceutical products, STEM research facilities, and areas for manufacturing small-batch medicinal molecules for pre-clinical and clinical applications to the U.S. Food and Drug Administration for approval of new uses of medications or new drug development. Some areas of the building would be of clean-room design. The building would also include an approximately 40,000-sf floor for laboratory uses. The laboratory floor would contain clinical, pathology, and specialty laboratories for support of the CNU Medical Center. The Laboratory/Pharmaceutical Building also would include staff support services, conference rooms, classrooms, and administrative functions.

Clinical laboratories support hospital operations and are used for testing and processing samples, such as blood samples from patients. Clinical laboratories are regulated by three state and federal oversight agencies: the California Division of Occupational Safety and Health, aka Cal/OSHA; the U.S. Department of Health and Human Services' Centers for Medicare & Medicaid Services; and the Centers for Disease Control and Prevention's Clinical Laboratory Improvement Amendment. Although the clinical laboratory would mainly serve the hospital, the clinical laboratory would also be available to smaller clinics, such as the medical clinic planned on the CNU Medical Center site.

Parking in Phase 2

Parking in Phase 2 would cumulatively add to the parking provided for Phase 1, as described below.

Vehicular Parking

In total, 4,355 cumulative parking spots are planned for Phase 2. Of these, 3,122 parking spots would be structured parking and 1,233 parking spots would be in surface parking lots. For Phase 2, a total of 131 parking spaces, more than 6 percent of all spaces, will have be designated as EV installed and have access to a charging station. Four hundred thirty six (436) parking spaces, over twenty percent of all spaces will be considered EV capable (inclusive of the EV Installed spaces) and would be preferred parking for green vehicles.

Bicycle Parking

Bicycle Long Term Parking: A planned total of 989 bicycle long term parking spots are planned for Phase 2. A total of 669 bicycle long term parking spots will be surface spots. A total of 320 bicycle long term parking spots will be structured spots. E-Bike charging stations would also be provided.

Bicycle Short Term Parking: A planned total of 188 bicycle short term parking spots are planned for Phase 2. All the bicycle parking spots will be surface spots.

Phase 3

Phase 3 of the CNU Medical Center project would involve the completion of building construction in the Medical, University, and Student/Faculty Housing Zones. In total, construction of Phase 3 would add 838,900 sf of development to the CNU Medical Center campus. The specific buildings to be constructed during Phase 3 are described below.

University Building 3

University Building 3 would be located near Sports Parkway, at the northern end of the University Zone. This building would be approximately 189,000 sf in size on seven levels (one below grade), with a planned footprint of 27,000 sf. The building would comprise classrooms, teaching laboratories, student support services, an auditorium, and administrative functions. The building also would include a two-level, 54,000-sf Central Plant and 27,000 sf of retail space.

Retail with Parking Building 3

Retail with Parking Building 3 would be located at the southern end of the University Zone, south of the relocated Sports Parkway. The building would be 257,000 sf in size and would contain approximately 1,200 parking spaces. The building would be four stories in height with one basement level, and would include four floors of structured parking and a 50,000-sf first floor with retail and dining services. The parking structure would employ a semiautomatic stacked parking system on three floors and standard parking on one floor.

Admin/Dormitory Building 2

Admin/Dormitory Building 2 would be an approximately 120,000 square foot residential building with a planned footprint of 24,000 sf. The building would be five stories in height, with a total of 6 levels that would include a below grade parking level. The building would include approximately 150 units that would house 300 students on four floors. The first floor would include 24,000 sf of administration and student support space. The below grade parking level would accommodate approximately 67 parking spaces.

Faculty Housing Building 2

Admin/Faculty Building 2 would be an approximately 126,000 sf seven-level residential building that would be six stories in height plus a basement parking level, with a planned footprint of 18,000 sf. There would be approximately 100 units housing 100 faculty and staff and their families on six floors. The below grade parking level would provide approximately 60 vehicular parking spaces.

Active Senior Living (Residential Care Facility for the Elderly) Building

The Active Senior Living Building would be a residential care facility for the elderly (RCFE). It would be approximately 86,400 sf in size and five stories in height with a basement level, and would have a planned footprint of 14,400 sf. The RCFE would accommodate approximately 100 residents on four floors. The first floor of the building would include approximately 14,400 sf of administration and resident support space. The below-grade parking level would include approximately 48 parking spaces.

Daycare Facility Building Expansion to Multi-Use Facility

In Phase 3, the Daycare Facility Building initially constructed in Phase 2 would be expanded by approximately 13,750 sf with a secure outdoor play area of 3,000 sf. The expanded daycare facility could accommodate an additional approximately 175 children and 30 staff; at buildout, the daycare facility would accommodate a total of 350 children and 40 staff.

A single-story sports court would be constructed on the roof level of the Daycare Facility Building. The sports court would be 30,000 sf in size, and would contain basketball, tennis, and volleyball courts for student use.

Parking in Phase 3

Parking in Phase 3 would cumulatively add to the parking provided for Phase 2, as described below. With completion of Phase 3, the CNU Medical Center would include 5,186 vehicular parking spaces and long term parking for 1,445 bicycles.

Vehicular Parking

In total, 5,186 cumulative parking spots are planned for Phase 3. Of these, 3,683 parking spots would be structured parking and 270 parking spots would be in surface parking lots. For Phase 3, a total of One hundred fifty six (156) parking spaces, over six percent of all spaces, will have be designated as EV installed and have access to a charging station. Five hundred nineteen (519) parking spaces, over twenty percent of all spaces will be considered EV capable (inclusive of the EV Installed spaces) and would be preferred parking for green vehicles.

Bicycle Parking

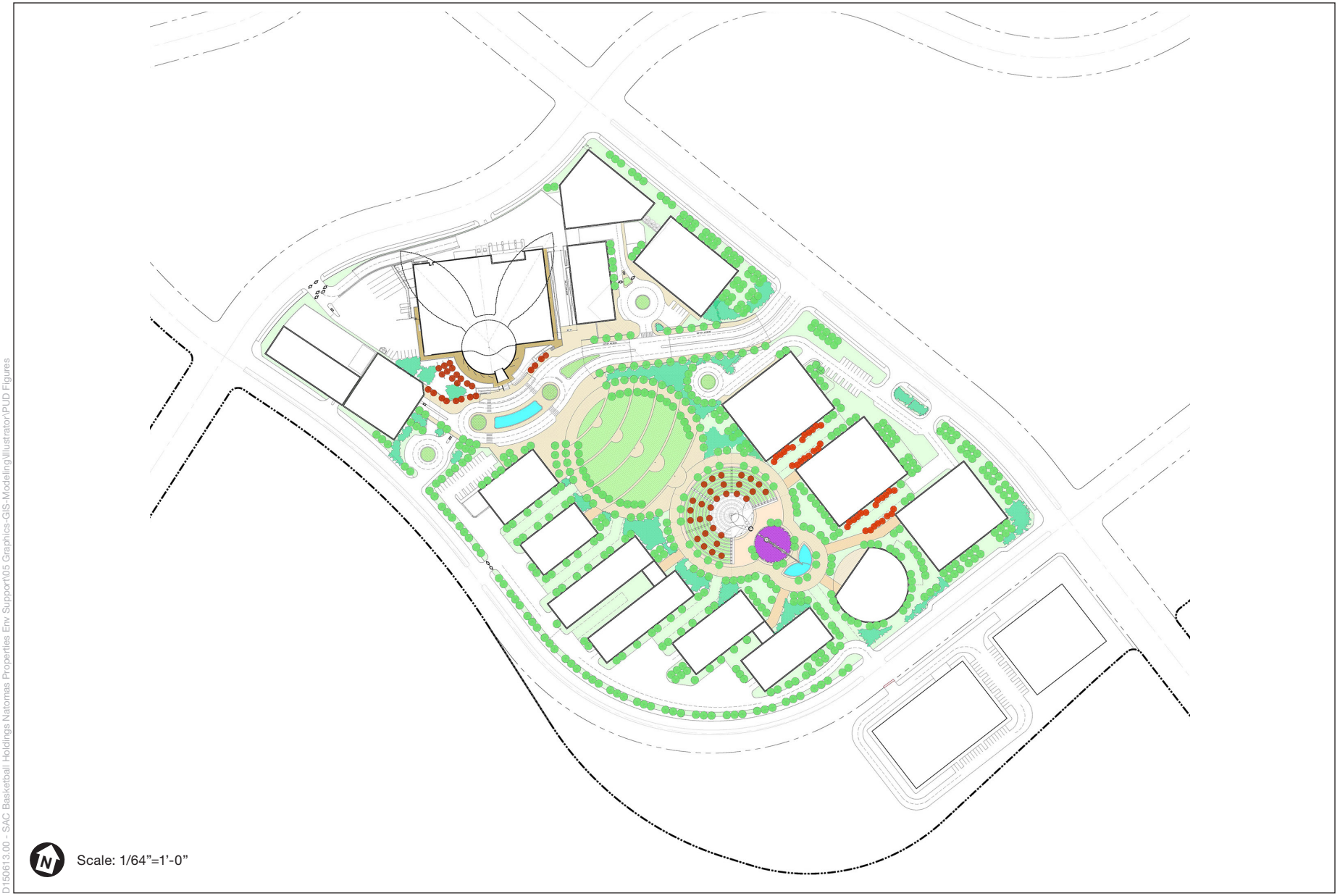
Bicycle Long Term Parking: A planned total of 1,445 bicycle long term parking spots are planned for Phase 3. Structured bicycle parking would have 1,150 spots, while 295 spots would be surface parking. E-Bike charging stations would not be provided.

Bicycle Short Term Parking: A planned total of 246 bicycle short term parking spots are planned for Phase 3. All the bicycle parking spots will be surface spots.

2.5.3 CNU Medical Center Landscaping and Site Amenities

Landscape improvements during Phase 1 would include installation of hardscape and softscape features. **Figure 2-29** shows the proposed landscape improvements at buildout of the CNU Medical Center, totaling approximately 9.1 acres.

Monuments with directional signals, flowering shrubs, and accent lighting would be installed at the CNU Medical Center site's main entry along Innovator Drive. Pedestrian-scale lighting, consisting of pole-mounted and ground light fixtures, and columnar trees would be provided along the campus's arrival spine. Parking lots would be 50 percent shaded with canopy shade trees. Building gateways would include seating elements, wayfinding signage, pedestrian-scale lighting, and flowering trees and shrubs.



SOURCE: Fong & Chan Architects, 2021

Innovation Park PUD

Figure 2-29
CNU Medical Center Landscaping Plan

ESA

The quad on the CNU Medical Center campus would include a fully accessible amphitheater with a canopy-covered stage, formal and casual seating, lawn terraces, a seminar court adjacent to University Building 1, a meditation area in the vicinity of the Faculty Housing buildings, a barbeque area near the Laboratory/Pharmaceutical Building, an outdoor play area adjacent to the Daycare Facility Building, WiFi-ready outdoor rooms with casual seating and low-scale lighting, rainwater gardens, and a promenade with wayfinding signage for walking and exercise that would be designed to also serve as emergency vehicle access. The campus's edge would include evergreen screen trees and shrubs. Approximately 638 trees are planned as part of the landscaping over the three phases of construction. Currently, 987 trees are located on the existing CNU Medical Center site. As many existing trees as feasible and appropriate for the final master plan would be kept in place over the three phases of construction.

Landscaping would be irrigated by a water-efficient, low-flow, point-source system designed to provide adequate watering to support plant growth and ensure deeply rooted plant material while avoiding excess water application. The system would be programmable, allowing operation during late-night and/or early-morning hours, with multiple start times and cycles. The system would interface with a weather-based sensor that would adjust the amount of water applied to the plant material based on daily weather conditions. Irrigation materials specified for the site would be selected on the basis of durability and ease of maintenance.

Bicycle and Pedestrian Amenities

Bicycle and pedestrian amenities would be provided throughout the CNU Medical Center campus. At buildout, and during every phase, bicycle parking would exceed the requirements of the City's Planning and Development Code, with a total of 1,409 bicycle parking spots provided at buildout. Access to bike lanes and sidewalks along the surrounding backbone roadway streets would also be provided. E-Bike charging stations would also be provided.

As depicted in Figure 2-21, the proposed CNU Medical Center campus would include an extensive network of pedestrian paths that would support low-impact exercise, while connecting uses in all campus development zones and providing connections to the pedestrian network of sidewalks in the larger Innovation Park PUD area.

2.5.4 CNU Medical Center Infrastructure

Drainage and Water Quality

The existing CNU Medical Center site is a paved parking lot with some storm drainage infrastructure. These storm drains connect to the existing storm drainage system in Sports Parkway and Innovator Drive. The stormwater is conveyed to Detention Basin 5-A, where stormwater is treated and then pumped into the East Drainage Canal.

The existing stormwater drainage infrastructure within the entire CNU Medical Center site would be demolished. A new stormwater drainage system would be designed to accommodate the proposed site layout (**Figures 2-30 and 2-31**). This stormwater drainage infrastructure would connect to the Innovation Park PUD area's new stormwater drainage infrastructure within Innovator Drive, Sports Parkway, and B Street.

D150613.00 - SAC Basketball Holdings Natomas Properties Env Support\05 Graphics-GIS-Modeling\Illustrator\PUD Figures

SOURCE: Langan, 2021

Innovation Park PUD

Figure 2-30
CNU Medical Center Conceptual Grading and Drainage Plan

ESA

D150613.00 - SAC Basketball Holdings Natomas Properties Env Support\05 Graphics-GIS-Modeling\Illustrator\PUD Figures

SOURCE: Langan, 2021

Innovation Park PUD

Figure 2-31
CNU Medical Center Conceptual Stormwater Management Plan

ESA

The estimated existing impervious surface area at the site of the proposed CNU Medical Center is approximately 85 percent; the estimated post-project imperviousness for the entire site would be approximately 75 percent. CNU proposes to install low-impact development bioretention planters with underdrains as needed on the CNU Medical Center site to provide stormwater quality treatment before the stormwater is discharged from the site. The stormwater quality features would be designed in accordance with the Stormwater Quality Design Manual for the Sacramento Region to reduce the stormwater runoff pollution to the maximum extent practicable.

Water Supply Service

The Innovation Park PUD area, including the CNU Medical Center site, would be served by the City of Sacramento for domestic and fire suppression water needs. The proposed Innovation Park PUD would have a water distribution system that would largely follow the street system throughout the project area. The CNU Medical Center would connect to the new water infrastructure in Innovator Drive, Sports Parkway, and B Street to provide fire flow and domestic water needs (**Figure 2-32**).

Within the CNU Medical Center site, a private water loop would be incorporated into the project design to serve the CNU Medical Center's Medical, University, Housing, and Research/ Laboratory Zones. The Innovation Park PUD area's water system would be designed to account for the CNU Medical Center's projected water demand.

Wastewater Service

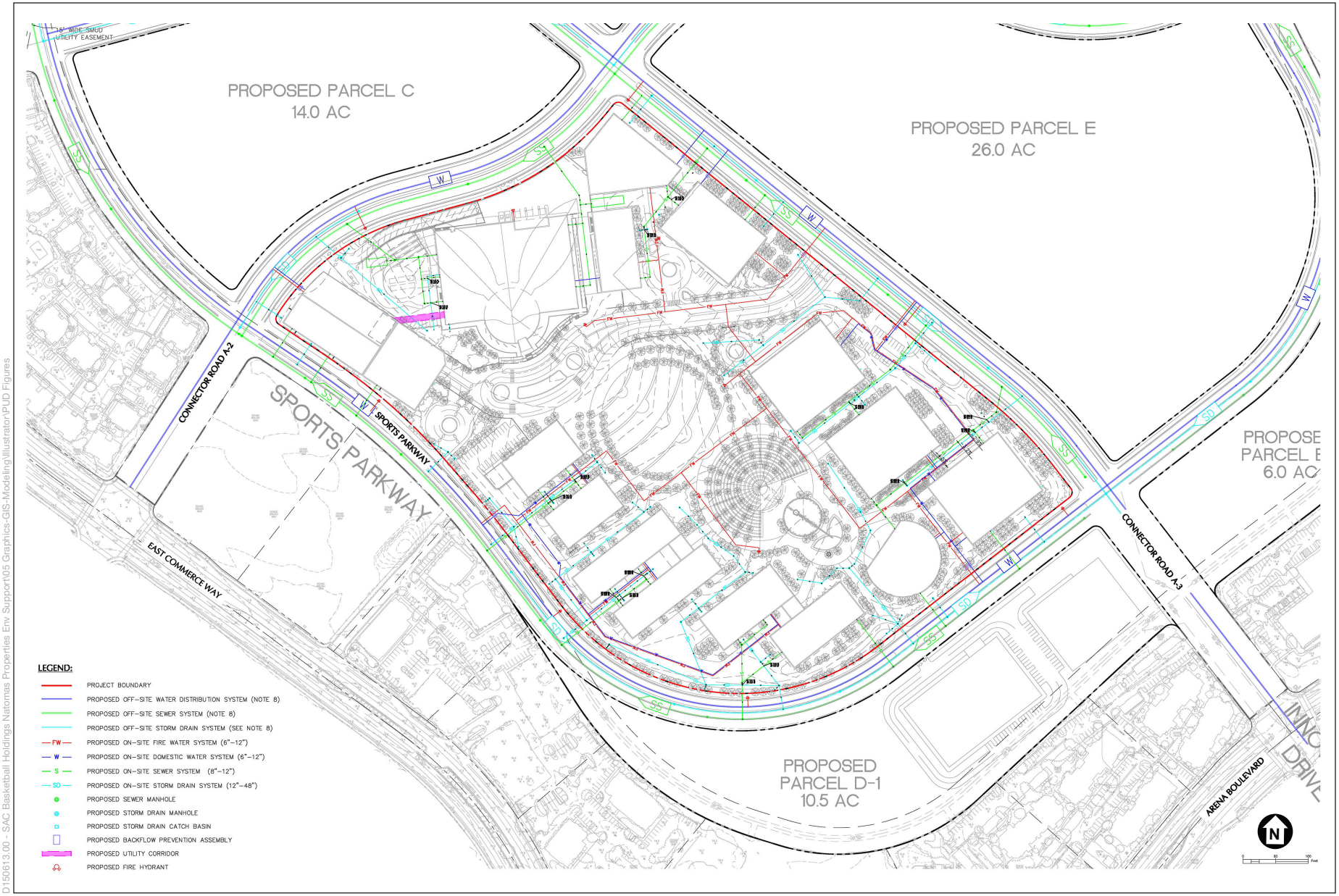
Wastewater in the project area would be collected by the Sacramento Area Sewer District's separated sewer system, conveyed to the Sacramento Regional County Sanitation District's system and ultimately treated at the district's wastewater treatment plant in Elk Grove. The proposed Innovation Park PUD would have a wastewater collection and conveyance system consisting of sewer mains under streets throughout the project area. The CNU Medical Center would connect to the new sewer infrastructure in Innovator Drive, Sports Parkway, and B Street for wastewater discharge via new sewer service laterals (Figure 2-32). The Innovation Park PUD area's sewer system would be designed to accommodate the CNU Medical Center's projected sewage generation.

Recycled Water Service

Recycled water service is not yet available on the site of the proposed CNU Medical Center. However, CNU is proposing to include recycled-water infrastructure throughout the CNU Medical Center site to facilitate connection in the future. If this service becomes available, CNU proposes to use recycled water for landscape irrigation and other allowable uses.

Electrical Service

SMUD provides electricity to the site of the proposed CNU Medical Center from existing underground 12-kilovolt facilities that would remain and are connected to SMUD's underground 12-kilovolt facilities adjacent to the existing Sleep Train Arena building. The exact locations and future infrastructure improvements would be determined through discussions with SMUD, but it



D150613.00 - SAC Basketball Holdings Natomas Properties Env Support\05 Graphics-GIS-Modeling\Illustrator\PUD Figures

SOURCE: Langan, 2021

Innovation Park PUD

Figure 2-32
CNU Medical Center Conceptual Utility Plan

ESA

is likely the CNU Medical Center could be served by the proposed SMUD substation in the PUD area on Parcel A, with appropriate infrastructure extended to the CNU Medical Center, at least for the initial Phase 1 construction and operation. The proposed substation may be expanded to provide additional power to the CNU Medical Center.

Electrical service would be provided by SMUD and through the on-site generation of renewable energy, including a planned solar photovoltaic system. The CNU Medical Center would install solar photovoltaics on CNU-affiliated building roofs. Phase 1B would include solar installations on University Building 1 and Pharmaceutical Building 1.

Phase 2 plans for solar installations on the Medical Office Building, University Building 2, and Pharmaceutical Building 2. Phase 3 plans for solar installations on University Building 3. The dormitories, faculty housing, and parking garages may have solar installations, depending on the planned use of the roof for activities or parking. Additional electrical demand at buildout of the CNU Medical Center would be planned to be partially met with 100 percent renewable energy provided through SMUD's Greenergy program.

Natural Gas Service

Natural gas is supplied to the site of the proposed CNU Medical Center by PG&E. The exact locations and possible future infrastructure improvements to support the CNU Medical Center would be determined through discussions with PG&E. No off-site improvements to PG&E gas lines are proposed to accommodate buildout of the proposed CNU Medical Center.

Electric-Vehicle Charging Stations

Currently, the City of Sacramento requires the installation of electric vehicle (EV) charging stations. For nonresidential uses that propose more than 201 parking spaces, 6 percent of the total number of parking spaces provided on-site must be EV Capable.

The City's recently adopted EV charging ordinance (Ordinance No. 2021-0015) requires new nonresidential, multifamily dwellings, and hotels and motels to provide 20 percent EV Capable charging spaces and at least one installed, operational Level 2 EV charger, effective January 1, 2023, for new construction of three stories or less, and effective January 1, 2026, for new construction of four stories or more. (Sacramento City Code Chapter 15.38.)

To comply with planned future increases in EV parking requirements, CNU is planning to proactively meet these requirements. One hundred fifty six (156) parking spaces, over six percent of all spaces, would be designated as EV installed and have access to a charging station. Five hundred and nineteen (519) parking spaces, over twenty percent of all spaces would be considered EV ready (inclusive of the EV Installed spaces).

2.5.5 CNU Medical Center Project Operations

The CNU Medical Center hospital would be designed and equipped to operate as a Level II Trauma Center to accommodate a possible future designation by Sacramento County based on distribution of emergency services and facility capability. To facilitate future designation as a

Level II Trauma Center, which can initiate definitive care for all injured patients, the hospital would include the following elements:

- 24-hour immediate coverage by general surgeons, as well as coverage by the specialties of orthopedic surgery, neurosurgery, anesthesiology, emergency medicine, radiology, and critical care.
- Tertiary care needs, such as cardiac surgery and hemodialysis.
- Trauma prevention and continuing education programs for staff.
- A comprehensive quality assessment program.

Note that a future potential designation of the proposed hospital as a Level II Trauma Center could only occur once the hospital is operational, and the designation is subject to approval by Sacramento County and compliance with California Code of Regulations Title 22, Sections 100254–100256 and 100259.

Employment and Visitation

The facilities constructed at the proposed CNU Medical Center during each phase would become operational upon the completion of each phase and would continue to operate during construction of subsequent phases. The hospital would employ 4,345 full time employees at buildout. In total, approximately 7,420 employees would be at the CNU Medical Center. The proposed CNU Medical Center would be home to more than 1,000 people living on-site, including 600 students, 200 staff/faculty members plus their families, and 120 residents of the active senior living building.

At buildout, daily visitation to the CNU Medical Center would consist of approximately 21,780 visits by employees, patients, delivery personnel, visitors, and students. At the end of each school year, there would be a graduation ceremony at the CNU School of Medicine that would temporarily increase visitation. The maximum approximate number of attendees during graduation ceremonies would be 2,000 people. The site would also include a 950-seat auditorium that could be used for various on-site events.

Helicopter and Ambulance Trips

Table 2-4 summarizes the anticipated average number of ambulance and helicopter trips during operation of Phases 1 and 2, and following buildout of Phase 3.

TABLE 2-4
NUMBER OF ANTICIPATED AVERAGE AMBULANCE AND HELICOPTER TRIPS TO THE HOSPITAL

Phase	Ambulance Trips		Helicopter Trips	
	Annually	Weekly	Annually	Weekly
1	3,600	69	52	1
2	4,200	81	78	1.5
3	4,200	81	78	1.5

SOURCE: Data provided by Fong & Chan Architects in 2021.

2.5.6 CNU Medical Center Construction

The general construction schedule and phasing for the proposed CNU Medical Center, along with a brief description of construction activities, equipment, materials and services, and the associated workforce, are presented below.

Construction Timing and Schedule

Construction of all three phases of the proposed CNU Medical Center is assumed to be completed within a period of 10 years, starting in 2022 and finishing in approximately 2032. Phase 1 is expected to be constructed between 2022 and 2026, as described further in **Table 2-5**.

TABLE 2-5
PHASE 1 CONSTRUCTION PRELIMINARY SCHEDULE

Construction Activity	Duration	Start	Completion
Hospital Building and Central Plant			
Site Preparation	7 months	March 2022	September 2022
Demolition	3 months	April 2022	July 2022
Foundation and Concrete	8 months	April 2022	December 2022
Structural Framing	10 months	December 2022	September 2023
Exterior Enclosure	9 months	March 2023	December 2023
Interior Construction	16 months	June 2023	October 2024*
University Building 1 and Pharmaceutical Building			
Site Preparation	2 months	September 2023	October 2023
Foundation and Concrete	2 months	October 2023	December 2023
Structural Framing	3 months	December 2023	March 2024
Exterior Enclosure	4 months	March 2024	July 2024
Interior Construction	9 months	July 2024	March 2025**

NOTES:
* With a six-month contingency, interior construction of the hospital building could extend until April 2025.
** With a three-month contingency, interior construction of University Building 1 and the Pharmaceutical Building could extend until November 2025.

SOURCE: Data provided by Fong & Chan Architects in 2021.

The timing of construction at the CNU Medical Center site, particularly Phases 2 and 3, would ultimately be based on economic and market conditions.

Construction would generally occur five days per week (Monday through Friday) for up to 11 hours per day. The sixth and seventh days of the week (Saturday and Sunday) would be used if and as necessary to maintain the CNU Medical Center's construction schedule. CNU may request the ability to conduct construction activities outside of the daytime construction hour limits of 10:00 p.m. and 7:00 a.m. established under Section 8.68.200 of the Sacramento City Code.

Construction Activities

This section summarizes the general types of construction activities, workforce, and equipment anticipated for building construction.

Construction Staging

During construction, equipment and materials would be temporarily staged on-site, or at a nearby staging lot in undeveloped areas of the project area. All staging areas would be fenced to prevent unlawful entry and protect public safety. Staging areas located on the site of the proposed CNU Medical Center would also be located to avoid interfering with traffic circulation associated with existing uses in operation on or adjacent to the CNU Medical Center site during construction.

Excavation and Grading

An existing mound at the northeast corner of the site would be built up with the import of approximately 160,000 cubic yards of fill to raise the building surfaces to elevation 31–38 feet north of the entry road, then graded to slope downward to the west and south of the site. Any excess soil from grading activities on the CNU Medical Center site would be temporarily stockpiled in on-site staging areas during construction and moved to other areas of the project area for construction purposes.

Building Construction

All CNU Medical Center buildings and parking structures would be constructed following the same general procedure. First, the foundation would be poured; then the structural frame would be erected. This would be followed by construction of the exterior building enclosure, and then buildout of the interior would be completed.

The proposed structures would consist of a multitude of building materials, including cement, stucco, and stone claddings; glass panels; aluminum and steel beams, poles, and columns; and screens ranging in permeability and made of different materials. Pile driving is possible for the hospital structure.

During construction of the CNU Medical Center, deliveries of materials such as concrete, structural steel, electrical equipment, and insulation would be required. Deliveries also would be necessary for additional construction services equipment (e.g., portable toilets, temporary office trailers for construction contractors). Materials generally would be delivered by truck. Assumptions for the EIR impact analysis regarding the estimated number of delivery truck trips needed for construction to transport building materials to the CNU Medical Center site are provided in Appendix C. For purposes of the analysis in this EIR, it is assumed that building materials would be transported to the CNU Medical Center site in 20-cubic-yard delivery trucks and temporarily stockpiled in on-site staging areas.

Construction Workforce

Over the construction period for the CNU Medical Center, construction contractors would employ a skilled workforce, including cement finishers, ironworkers, pipe fitters, welders, carpenters, electricians, riggers, painters, operators, and laborers. The maximum number of

workers assumed in the EIR to be employed during each phase of construction is summarized in Appendix C. The entire construction workforce is anticipated to come from the construction labor pool available in the region (e.g., Sacramento, Placer, El Dorado, Yolo, and San Joaquin Counties). The actual number of construction workers hired would be determined by the construction contractor selected for the CNU Medical Center project. Construction workers would park on the CNU Medical Center site, within the construction staging area.

Construction Equipment

The types of equipment anticipated to be used during the various activities during each construction phase are listed in Appendix C. The actual types of construction equipment to be used would be determined by the construction contractor(s) selected for the CNU Medical Center.

2.6 Project Approvals and Entitlements

2.6.1 City of Sacramento

The proposed Innovation Park PUD and the proposed CNU Medical Center project would require numerous approvals from the City of Sacramento, as described below.

Innovation Park PUD

Adoption of the proposed Innovation Park PUD is anticipated to require, but may not be limited to, the following City actions:

- Certification of the EIR to determine that the EIR was completed in compliance with the requirements of CEQA, that the decision-making body has reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the City of Sacramento.
- Adoption of a Mitigation Monitoring Plan (MMP), which specifies the methods for monitoring mitigation measures required to eliminate or reduce the project's significant effects on the environment.
- Adoption of Findings of Fact, and for any impacts determined to be significant and unavoidable, a Statement of Overriding Considerations.
- Approval of a Water Supply Assessment.
- Approval of one or more amendments to the 2035 General Plan.
- Approval of one or more rezones.
- Approval of one or more amendments to the Bikeways Master Plan.
- Approval of a Tentative Master Parcel Map.
- Approval of the Innovation Park PUD Guidelines.
- Approval of an Innovation Park PUD Schematic Plan.
- Approval of a Mixed-Income Housing Strategy.

- Approval of a Development Agreement.
- Approval of a Lot Line Adjustment.
- Approval of a demolition permit for the existing Sleep Train Arena building and associated infrastructure.

CNU Medical Center

In addition to the City of Sacramento approvals required for the Innovation Park PUD, the following City approvals would be required for the CNU Medical Center:

- Approval of Conditional Use Permit for a Hospital.
- Approval of Conditional Use Permit for a College.
- Approval of Conditional Use Permit for a Helistop.
- Approval of a Tree Removal Permit.
- Approval of a Site Plan and Design Review for Phase 1A of the CNU Medical Center (hospital and central utility plant) and associated parking.
- Approval of a Development Agreement.
- Approval of a variance from the City's Noise Control Ordinance to allow an extension of the hours of construction established by the ordinance for the Phase 1 facilities, including the hospital building and central utility plant structure.
- Approval of a grading permit to regulate land disturbances, landfill, soil storage, pollution, and erosion and sedimentation resulting from construction activities.

2.6.2 Other Local, Regional, State, or Federal Agencies

The proposed Innovation Park PUD and the proposed CNU Medical Center would require several additional approvals from other federal, state, regional, and/or local agencies, as described below.

Innovation Park PUD

Subsequent individual projects implemented under the proposed Innovation Park PUD would be anticipated to include, but may not be limited to, the following actions by entities other than the City:

- Approval of a construction activity stormwater permit, including a Storm Water Pollution Prevention Plan, from the Central Valley Regional Water Quality Control Board.
- Approval of a water quality certification under Section 401 of the Clean Water Act by the Central Valley Regional Water Quality Control Board.
- Approval of a stationary-source permit from the Sacramento Metropolitan Air Quality Management District (SMAQMD).

CNU Medical Center

The following approvals from other local and regional agencies would be required for the CNU Medical Center:

- SMUD approval of electrical conveyance facility improvements.
- SMAQMD approval of an Authority to Construct and Permit to Operate.
- Sacramento County approval for the CNU Medical Center to operate as a Level II Trauma Center.

The following approvals from state agencies would be required for the CNU Medical Center:

- Approval by the California Office of Statewide Health Planning and Development (OSHPD), Facilities Development Division, of a building permit and certificate of occupancy.
- Permitting by the California Department of Transportation, Division of Aeronautics, of the hospital helistop under Section 21666 of the Public Utilities Code, that would include a determination action by the Sacramento Area Council of Governments, which serves as the Airport Land Use Commission.
- Approval by the California Department of Public Health of a radioactive-material license, food service license, and licensing to operate the hospital and other healthcare facilities.

As noted above, the OSHPD Facilities Development Division would approve building permits associated with the proposed hospital and the medical office building. As part of the building permit process, OSHPD would require the designation of a licensed general contractor, approval of the inspector of record by the architect of record and OSHPD, City entitlement approval, and approval by the Sacramento Fire Department.

The following federal actions would be required for the CNU Medical Center:

- FAA actions under Federal Aviation Regulation Part 77 and Part 157 regarding objects affecting navigable airspace and establishment of a helistop.

2.7 Responsible Agencies

This EIR is intended to be used by responsible and trustee agencies (as defined by Sections 15381 and 15386 of the CEQA Guidelines) that may have review or discretionary authority over subsequent individual projects implemented under the proposed Innovation Park PUD. Agencies other than the lead agency that also may use this EIR in their review of subsequent individual projects implemented under the proposed Innovation Park PUD, or that may have responsibility for approval of certain project elements, may include but are not limited to the following:

- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- California Department of Transportation
- California Department of Toxic Substances Control

- California Department of Fish and Wildlife
- California Department of Public Health
- California Office of Statewide Health Planning and Development
- California Public Utilities Commission
- Central Valley Flood Protection Board
- Central Valley Regional Water Quality Control Board
- Pacific Gas and Electric Company
- Sacramento Housing and Redevelopment Authority
- Sacramento Metropolitan Air Quality Management District
- Sacramento Municipal Utility District
- Sacramento Regional County Sanitation District
- Sacramento Regional Transit District

CHAPTER 3
Land Use, Population, Employment, and Housing

3.1 Introduction

This chapter describes and evaluates the land use, population, employment, and housing effects anticipated to occur with adoption and implementation of the proposed Innovation Park Planned Unit Development (PUD). This chapter also addresses the land use, population, employment, and housing effects anticipated to occur with approval and implementation of the California Northstate University Medical Center (CNU Medical Center) project, which is currently proposed within the PUD area (the area referred to in this chapter as the *project area*). The proposed Innovation Park PUD and the proposed CNU Medical Center are together referred to herein as the *proposed project.*

Section 15125 of the California Environmental Quality Act (CEQA) Guidelines (CEQA Guidelines) states that an environmental impact report (EIR) shall discuss any inconsistencies between the proposed project and applicable general plans, specific plans, and regional plans. Accordingly, this chapter discusses potential inconsistencies between the proposed project and the Sacramento 2035 General Plan (2035 General Plan or General Plan), the North Natomas Community Plan (NNCP), the Sacramento Area Council of Governments (SACOG) Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS), and the City of Sacramento's (City's) Planning and Development Code. Notwithstanding the conclusions reflected in this chapter, the final determination of project consistency with applicable plans is within the authority of the Sacramento City Council. The information provided in this chapter is intended to inform that determination.

While an EIR may provide information regarding economic and social changes resulting from a project, which may include land use, socioeconomic, population, employment, or housing issues, CEQA does not recognize these issues as direct physical effects on the environment (CEQA Guidelines Sections 15064(d)(1), (e)). Therefore, this chapter does not identify environmental impacts and mitigation measures. In addition, the City does not consider inconsistency with plan policies or codes to necessarily be indicative of significant environmental impacts. To the extent that significant environmental impacts would occur as a result of plan or policy inconsistencies, these potential impacts are disclosed and evaluated in the environmental impact sections of Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, of this EIR.

The proposed project is located on a currently unutilized site with no public access across it. As such, there is no potential for division of an established community, nor is there any potential for displacement of people or housing. On the contrary, the project will increase connectivity between the surrounding areas by developing public roadways on the site, and will provide additional housing on a vacant, infill location. As discussed below, the proposed project is consistent with applicable land use plans, including the 2035 General Plan. The development and growth induced by the proposed project is therefore planned, and there is no potential for unplanned growth. Thus, the proposed project does not have any potential to cause impacts related to division of established communities, displacement of people or housing, or inducement of unplanned growth.

3.2 Land Use Consistency and Compatibility

The evaluation in this section was developed based on information provided in the 2035 General Plan, the NNCP, the 2035 General Plan Master EIR, and the SACOG MTP/SCS.

3.2.1 Notice of Preparation Comments

A Notice of Preparation for this EIR was circulated for public review from March 1 to April 2, 2019. During the public comment period, several letters were received from agencies, organizations, and individuals who commented on land use issues related to the proposed project. A common issue raised in the comment letters was opposition to the development of additional housing and commercial uses in Natomas and a preference for the development of nonresidential and noncommercial uses in the project area.

3.2.2 Environmental Setting

Regional Context

The City of Sacramento is located approximately 80 miles east of San Francisco and 85 miles west of Lake Tahoe in the northern portion of the Central Valley, at the northern end of the Sacramento–San Joaquin Delta and at the confluence of the Sacramento and American Rivers. Sacramento is the seat of government for the State of California and serves as the county seat of Sacramento County. Sacramento is the largest incorporated city in Sacramento County.

Sacramento is a major transportation hub, the point of intersection of major transportation routes that connect Sacramento to the San Francisco Bay Area to the west, the Sierra Nevada and the state of Nevada to the east, the city of Los Angeles to the south, and Oregon to the north. The city is bisected by a number of major freeways, including Interstate 5, which traverses the state from north to south; Interstate 80 (I-80) and the Capital City Freeway (aka Business 80), which together provide an east-west connection between San Francisco and Reno; and U.S. Highway 50, which provides an east-west connection between Sacramento and South Lake Tahoe. In addition, Union Pacific Railroad and BNSF Railway lines cross the City.

The North Natomas Community Plan area (9,001 acres), located in the northwest portion of the city of Sacramento, is part of the greater Natomas Basin (55,000 acres). The NNCP area consists

of approximately 7,440 acres within the city limits and 1,561 acres in unincorporated Sacramento County. The southern edge of the community is approximately 3 miles from Downtown Sacramento and the northwestern edge is approximately 2½ miles from Sacramento International Airport. The community is bounded by Elkhorn Boulevard on the north, I-80 on the south, the Natomas East Main Drainage Canal on the east, and the West Drainage Canal, Fisherman's Lake, and State Route 99 on the west. The South Natomas Community Plan area borders North Natomas on the south, North Sacramento on the east, and unincorporated areas of Sacramento County on the north and west.

Existing and Adjacent Uses

Innovation Park PUD Area

The Innovation Park PUD area—i.e., the overall project area—includes the Sleep Train Arena building and the former Sacramento Kings practice facility. These two buildings are no longer used for their primary purpose, as the Kings now conduct operations at the Golden 1 Center and adjacent practice facility in Downtown Sacramento. Figure 2-2 in Chapter 2, *Project Description*, shows the project area and surrounding land uses. The majority of the southern portion of the project area consists of a paved parking lot and the private Sports Parkway, which surrounds the majority of the project area. The northern portion of the project area is undeveloped. This portion of the project area contains the foundation and excavated area for a partially completed baseball field and stadium, which was discontinued many years ago. The excavated area is now filled with water and supports riparian habitat along the edges. Uses adjacent to the project area include mixed-use commercial, multi-family residential, office, medical, retail, and vacant land uses.

CNU Medical Center Site

The proposed CNU Medical Center would be located on approximately 35 acres in the southwest portion of the project area (see Figures 2-2 and 2-3 in Chapter 2, *Project Description*). The majority of the southwest portion of the project area consists of a paved parking lot and the private Sports Parkway, which surrounds most of the project area. Existing uses adjacent to the site of the proposed CNU Medical Center include developed and undeveloped areas of the Sleep Train Arena site to the north and east; multi-family residential to the west; medical, office, and commercial uses and vacant land to the southwest; and multi-family residential, commercial, and vacant land uses to the south and southeast.

3.2.3 Regulatory Setting

Federal

No federal regulations that specifically regulate land use or land use compatibility on nonfederal lands would be applicable to the proposed project.

State

California Planning and Zoning Law

The California Planning and Zoning Law (Government Code Sections 65000–66035), to the extent it applies to the City of Sacramento as a charter city, requires each city to prepare and

adopt "…a comprehensive, long term general plan for the physical development of the…city, and of any land outside its boundaries…" (Section 65300). Under Government Code Section 65302, each general plan must include the following seven elements: Land Use; Circulation; Housing; Conservation; Open Space; Noise; and Safety.

A specific plan is a hybrid document that acts as a bridge between the city's general plan and the zoning regulations for development of a particular area. Government Code Section 65450 states that a city may prepare a specific plan "for the systematic implementation of the general plan…" A specific plan is adopted in the same manner as a general plan (Government Code Section 65453) and is considered a legislative act.

Local

2020 Sacramento Area Council of Governments Metropolitan Transportation Plan/Sustainable Communities Strategy

SACOG is designated by the U.S. government as the metropolitan planning organization for the Sacramento region. As such, SACOG is required to maintain a regional transportation plan that must be updated every four years in coordination with each local government. Placer and El Dorado Counties are different in this arrangement, in that each county has its own state designation as a regional transportation planning agency responsible for developing its own transportation plan. SACOG is the regional transportation planning agency for Sacramento, Sutter, Yolo, and Yuba Counties. SACOG works in coordination with the Placer County Transportation Planning Agency and the El Dorado County Transportation Commission to ensure consistency between these two county-specific plans and the broader region-wide plan.

The MTP/SCS is required to be a 20-year multimodal transportation plan that is financially feasible, achieves health standards for clean air, and addresses statewide climate goals. The MTP/SCS land use forecast identifies the general location of different types of land uses, residential densities, employment intensities, and natural resource areas. The MTP/SCS estimates that by 2040, the Sacramento region will have added 620,000 people, as well as the jobs and housing to support them.[1]

The project area is included in the Established Communities community type in the 2020 MTP/SCS, which describes land uses that are typically made up of existing low- to medium-density residential neighborhoods, office and industrial parks, or commercial strip centers. Depending on the density of existing land uses, some Established Communities have bus service; others may have commuter bus service or very little service. The majority of the region's roads are in Established Communities. The 2020 MTP/SCS forecasts the addition of 81,365 new housing units and 146,053 new employees in the Established Communities community type by 2040.[2]

[1] Sacramento Area Council of Governments. 2019. *2020 Metropolitan Transportation Plan/Sustainable Communities Strategy*. Adopted November 18, 2019. Page 24.

[2] Sacramento Area Council of Governments. 2019. *2020 Metropolitan Transportation Plan/Sustainable Communities Strategy.* Adopted November 18, 2019. Page 42.

Sacramento 2035 General Plan

State law requires each city and county to prepare and adopt a comprehensive, long-range general plan for its physical development (Government Code Section 65300). A comprehensive general plan provides a jurisdiction with a consistent framework for land use decision-making. The general plan has been referred to as the "constitution" for land use development to emphasize its importance to land use decisions. The general plan and its maps, diagrams, and development policies form the basis for a city's zoning, subdivision, and public works actions. Under California law, no specific plan, area plan, community plan, zoning, subdivision map, or public works project may be approved unless the city finds that it is consistent with the adopted general plan. The Sacramento 2035 General Plan was adopted on March 3, 2015.

The 2035 General Plan, like its predecessors, is a long-term policy guide for the physical, economic, and environmental growth within the City of Sacramento. The General Plan's goals, policies, and implementation programs define a road map for achieving Sacramento's vision to be the most livable city in America. Underlying the vision and connecting it to the road map are six themes that thread throughout the General Plan:

- Making Great Places
- Growing Smarter
- Maintaining a Vibrant Economy
- Creating a Healthy City
- Living Lightly—Reducing Our "Carbon Footprint"
- Developing a Sustainable Future

In implementing these themes, the 2035 General Plan includes a land use diagram that establishes land use designations for the entire City, as well as goals, policies, and implementation programs that provide a framework for future decisions intended to reflect the General Plan themes.

Existing General Plan Land Use Designation

The project area is currently under the Urban Center High land use designation (Figure 2-5). The Urban Center High designation provides for a balanced mix of high-density/high-intensity, single-use commercial or residential development or horizontal and vertical mixed-use development, including retail, service, office, and residential uses; gathering places such as plazas, courtyards, or parks; and compatible public, quasi-public, and special uses. Allowable building heights in the Urban Center High land use designation range from two to 24 stories. Development standards within Urban Center High are as follows:

- Minimum Density: 24.0 units/net acre
- Maximum Density: 250.0 units/net acre
- Minimum Floor Area Ratio (FAR)[3]: 0.50 FAR

[3] *Floor area ratio* (FAR) is the measurement of a building's floor area in relation to the size of the lot/parcel on which the building is located. Typically, FAR is calculated by dividing the gross floor area of a building(s) by the total buildable area of the piece of land upon which it is built.

- Maximum FAR: 8.00 FAR

Proposed General Plan Land Use Designation

Under the proposed project, the entire project area would be under the General Plan's Urban Center Low land use designation (see Figure 2-5). The Urban Center Low designation provides for a balanced mix of high-density/high-intensity, single-use commercial or residential development or horizontal and vertical mixed-use development, including retail, service, office, and/or residential uses; gathering places such as plazas, courtyards, or parks; and compatible public, quasi-public, and special uses (e.g., hospitals, universities). Allowable building heights under the Urban Center Low designation generally range from two to seven stories, with taller heights permitted if supported by context and market. Development standards within Urban Center Low are as follows:

- Minimum Density: 20.0 units/net acre
- Maximum Density: 150.0 units/net acre
- Minimum FAR: 0.40 FAR
- Maximum FAR: 4.00 FAR

Table 3-1 discusses the goals and policies from the 2035 General Plan that are applicable to the proposed project.

North Natomas Community Plan

The NNCP is part of the Sacramento 2035 General Plan, and provides a refinement of the goals and objectives of the General Plan to serve as a guideline for development specifically within the NNCP area. The NNCP serves as a development guide for the public and private sectors when planning physical improvements in the NNCP area.

First adopted in 1994, the NNCP envisions an urban form for North Natomas that includes a well-integrated mixture of residential, employment, commercial, and civic uses, interdependent with quality transit service and a radial network of connections linking activity centers with streets, transit routes, and linear parkways with pedestrian/bike trails. The North Natomas community is envisioned to be interdependent with transit, with high-density residential uses and intense employment generators located near transit to provide riders for the light rail stations and bus transit centers. Employment centers, located at light rail stations and along the freeways, will be mixed-use centers consisting of primary employment generators and secondary support retail, industrial, and residential uses, serving the centers' employees and employers. Integration of land uses will help decrease the distance and travel time between uses.

The NNCP's land use designation for the project area is Urban Center High. Under the proposed project, the entire project area would be under the NNCP's Urban Center Low land use designation. Table 3-1 discusses the goals and policies from the NNCP that are applicable to the proposed project.

TABLE 3-1
INNOVATION PARK PLANNED UNIT DEVELOPMENT
SACRAMENTO 2035 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2035 General Plan Goal/Policy	Discussion
Land Use and Urban Design	
Goal LU 1.1 Growth and Change. Support sustainable growth and change through orderly and well-planned development that provides for the needs of existing and future residents and businesses, ensures the effective and equitable provision of public services, and makes efficient use of land and infrastructure.	
• **LU 1.1.4 Leading Infill Growth.** The City shall facilitate infill development through active leadership and the strategic provision of infrastructure and services and supporting land uses. (*MPSP*)	The proposed project would facilitate the development of a diverse mix of uses, which may include employment uses, various housing types, medical, institutional, commercial, shopping, destination amenities, and a range of personal and professional services on an infill site. The proposed project is consistent with infill growth by providing new residents, employment opportunities, and services in an area substantially surrounded by urban development.
Goal LU 2.1 City of Neighborhoods. Maintain a city of diverse, distinct, and well-structured neighborhoods that meet the community's needs for complete, sustainable, and high-quality living environments, from the historic downtown core to well-integrated new growth areas.	
• **LU 2.1.1 Neighborhoods as a Basic Unit.** Recognizing that Sacramento's neighborhoods are the basic living environments that make-up the city's urban fabric, the City shall strive through its planning and urban design to preserve and enhance their distinctiveness, identity, and livability from the downtown core to well integrated new growth areas. (*RDR/MPSP*)	The proposed project would facilitate the development of a diverse mix of uses, which may include residential uses, along with commercial, medical, institutional, shopping, destination amenities, and personal and professional services. The proposed project would be subject to the City's Site Plan and Design Review process to ensure that development under the proposed project would be consistent with applicable plans, ordinances, and development regulations. Compliance with the Site Plan and Design Review process would ensure that development of the project area would support the distinctiveness, identity, and livability of existing and new neighborhoods.
• **LU 2.1.3 Complete and Well-Structured Neighborhoods.** The City shall promote the design of complete and well-structured neighborhoods whose physical layout and land use mix promote walking to services, biking, and transit use; foster community pride; enhance neighborhood identity; ensure public safety; are family-friendly and address the needs of all ages and abilities. (*RDR*)	The project area may be served by the future Sacramento Regional Transit District Downtown-Natomas-Airport light rail line. The proposed project would be subject to the City's Site Plan and Design Review process to ensure that development under the proposed project would be consistent with applicable plans, ordinances, and development regulations and to ensure the development of complete and well-structured neighborhoods whose physical layout and land use mix promote walking to services, biking, and transit uses and address the needs of all ages and abilities.
• **LU 2.1.4 General Plan Density Regulations for Mixed-Density Development Projects.** Where a developer proposes a multi-parcel development project with more than one residential density or FAR, the City shall, at the discretion of the Community Development Director, apply the applicable density or FAR range of the General Plan Land Use Designation to the net developable area of the entire project site rather than individual parcels within the site. Some parcels may be zoned for densities/intensities that exceed the maximum allowed density/intensity of the project site's Land Use Designation, provided that the net density of the project as a whole is within the allowed range. (*RDR*)	Under the proposed project, maximum density and FAR would be consistent with the minimums and maximums established in the General Plan.

TABLE 3-1
INNOVATION PARK PLANNED UNIT DEVELOPMENT
SACRAMENTO 2035 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2035 General Plan Goal/Policy	Discussion
• **LU 2.1.6 Neighborhood Centers.** The City shall promote the development of strategically located (e.g., accessible to surrounding neighborhoods) mixed-use neighborhood centers that accommodate local-serving commercial, employment, and entertainment uses; provide diverse housing opportunities; are within walking distance of surrounding residents; and are efficiently served by transit. (*RDR*)	The project area may be served by the future Sacramento Regional Transit District Downtown-Natomas-Airport light rail line. The proposed project would be subject to the City's Site Plan and Design Review process to ensure that development under the proposed project would be consistent with applicable plans, ordinances, and development regulations and to ensure the development of complete and well-structured neighborhoods whose physical layout and land use mix promote walking to services, biking, and transit users.
• **LU 2.1.8 Neighborhood Enhancements.** The City shall promote infill development, reuse, rehabilitation, and reuse efforts that contribute positively (e.g., architectural design) to existing neighborhoods and surrounding areas. (*RDR*)	The proposed project would facilitate the development of a diverse mix of uses on an infill site. The proposed project would be subject to the City's Site Plan and Design Review process to ensure that development under the proposed project would be consistent with applicable plans, ordinances, and development regulations and would be compatible with surrounding uses.
Goal LU 2.4 City of Distinctive and Memorable Places. Promote community design that produces a distinctive, high-quality built environment whose forms and character reflect Sacramento's unique historic, environmental, and architectural context, and create memorable places that enrich community life.	
• **LU 2.4.1 Unique Sense of Place.** The City shall promote quality site, architectural and landscape design that incorporates those qualities and characteristics that make Sacramento desirable and memorable including: walkable blocks, distinctive parks and open spaces, tree-lined streets, and varied architectural styles. (*RDR*)	The proposed project would be subject to the City's Site Plan and Design Review process to ensure that development under the proposed project would be consistent with applicable plans, ordinances, and development regulations and would include quality site, architectural and landscape design.
Goal LU 2.5 City Connected and Accessible. Promote the development of an urban pattern of well-connected, integrated, and accessible neighborhoods, corridors, and centers.	
• **LU 2.5.1 Connected Neighborhoods, Corridors, and Centers.** The City shall require that new development, both infill and greenfield, maximizes connections and minimizes barriers between neighborhoods, corridors, and centers within the city. (*RDR*)	New roadways within the project area would connect to existing neighborhoods in North Natomas such as the Natomas Crossing neighborhood to the south of the proposed project area and the Creekside neighborhood to the north of the project area.
• **LU 2.5.2 Overcoming Barriers to Accessibility.** The City shall strive to remove and minimize the effect of natural and manmade barriers to accessibility between and within existing neighborhoods, corridors, and centers. (*MPSP/RDR*)	New roadways within the project area would remove manmade barriers between neighborhoods in North Natomas such as the Natomas Crossing neighborhood to the south of the project area and the Creekside neighborhood to the north of the project area.
Goal LU 2.6 City Sustained and Renewed. Promote sustainable development and land use practices in both new development, reuse, and reinvestment that provide for the transformation of Sacramento into a sustainable urban city while preserving choices (e.g., where to live, work, and recreate) for future generations.	

TABLE 3-1
INNOVATION PARK PLANNED UNIT DEVELOPMENT
SACRAMENTO 2035 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2035 General Plan Goal/Policy	Discussion
• **LU 2.6.1 Sustainable Development Patterns.** The City shall promote compact development patterns, mixed use, and higher-development intensities that use land efficiently; reduce pollution and automobile dependence and the expenditure of energy and other resources; and facilitate walking, bicycling, and transit use. (*RDR*)	Development under the proposed project would provide a mix of uses, which may include a variety of housing and employment opportunities, as well as shopping, recreation, entertainment, hospital/medical, university, and other services on an infill site. The project area would be served by the future Sacramento Regional Transit District Downtown-Natomas-Airport light rail line. Consequently, the proposed project would use land efficiently and reduce pollution and automobile dependence and the expenditure of energy and other resources.
• **LU 2.6.2 Transit-Oriented Development.** The City shall actively support and facilitate mixed-use retail, employment, and residential development around existing and future transit stations. (*RDR*)	The project area may be served by the future Sacramento Regional Transit District Downtown-Natomas-Airport light rail line. Consequently, development under the proposed project would locate a mix of land uses, which may include mixed-use retail, employment, and residential development, around future transit facilities.
Goal LU 2.7 City Form and Structure. Require excellence in the design of the city's form and structure through development standards and clear design direction.	
• **LU 2.7.4 Public Safety and Community Design.** The City shall promote design of neighborhoods, centers, streets, and public spaces that enhances public safety and discourages crime by providing street-fronting uses ("eyes on the street"), adequate lighting and sight lines, and features that cultivate a sense of community ownership (*RDR*)	The proposed project would be subject to the City's Site Plan and Design Review process to ensure that development under the proposed project would be consistent with applicable plans, ordinances, and development regulations and to ensure that the design of neighborhoods, centers, streets, and public spaces in the project area enhances public safety, adequate lighting and sight lines, and features that cultivate a sense of community ownership.
Goal LU 4.1 Neighborhoods. Promote the development and preservation of neighborhoods that provide a variety of housing types, densities, and designs and a mix of uses and services that address the diverse needs of Sacramento residents of all ages, socio-economic groups, and abilities.	
• **LU 4.1.1 Mixed-Use Neighborhoods.** The City shall require neighborhood design that incorporates a compatible and complementary mix of residential and nonresidential (e.g., retail, parks, and schools) uses that address the basic daily needs of residents and employees. (*RDR*)	The proposed project would be subject to the City's Site Plan and Design Review process to ensure that development under the proposed project would be consistent with applicable plans, ordinances, and development regulations and to ensure that the design of neighborhoods incorporates a compatible and complementary mix of uses, which may include a variety of housing and employment opportunities, as well as shopping, recreation, entertainment, hospital/medical, university, and other services, that address the basic daily needs of residents and employees.
• **LU 4.1.2 Neighborhood Amenities.** The City shall encourage appropriately scaled community-supportive facilities and services within all neighborhoods to enhance neighborhood identity and provide convenient access within walking and biking distance of city residents. (*RDR/MPSP*)	The proposed project would be subject to the City's Site Plan and Design Review process to ensure that development under the proposed project would be consistent with applicable plans, ordinances, and development regulations and would include appropriately scaled community-supportive facilities and services within all neighborhoods.
North Natomas Community Plan Policies	
Land Use and Urban Design	
• **NN.LU 1.1 PUD Designation Required.** All development in the plan area shall be designated as a Planned Unit Development (PUD) and shall include Schematic Plan and Development Guidelines for the PUD. *(MPSP)*	Development within the project area would be designated as a PUD and would include a Schematic Plan and Development Guidelines for the PUD.

TABLE 3-1
INNOVATION PARK PLANNED UNIT DEVELOPMENT
SACRAMENTO 2035 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2035 General Plan Goal/Policy	Discussion
Residential	
• **NN.LU 1.6 Neighborhoods–Schools.** The City shall locate an elementary school as the focal point near the center of each neighborhood serving 1,500 to 3,000 dwelling units. *(MPSP/IGC)*	The proposed project would be subject to the City's Site Plan and Design Review process to ensure that development under the proposed project would be consistent with applicable plans, ordinances, and development regulations, including applicable requirements for provision of schools.
• **NN.LU 1.7 Neighborhoods–Open Space.** The City shall ensure that at least 80 percent of the dwelling units are within 880 feet of open space (e.g., accessible public and private parks and parkways, drainage corridors, agricultural buffers, golf courses, lakes, and other open space opportunities). The 880-foot access standard is calculated based on actual walking routes rather than radius. *(RDR/MPSP)*	The proposed project would be subject to the City's Site Plan and Design Review process to ensure that development under the proposed project would be consistent with applicable plans, ordinances, and development regulations, including applicable requirements for provision of open space.
• **NN.LU 1.8 Balance of Residential Densities in Each Neighborhood.** The City shall strive for a balance of residential densities in each neighborhood. Neighborhoods located within close proximity to transit and Town Center shall provide a higher overall density than those on the perimeter of the community. The medium-density residential can be used as a "linchpin" to help balance the neighborhood. For example, in a neighborhood with primarily low-density, the medium density should be designed to reflect a higher density type (i.e., more rental opportunities, smaller lots, etc.). In a higher density neighborhood, the medium-density product type would reflect the low-density types (i.e., ownership opportunities and larger lots). *(MPSP)*	Under the proposed project, the entire project area would be under the Urban Center Low general plan land use designation. The Urban Center Low designation provides for a balanced mix of high-density/intensity single-use commercial or residential development or horizontal and vertical mixed-use development, including retail, service, office, and/or residential uses. The project area may be served by the future Sacramento Regional Transit District Downtown-Natomas-Airport light rail line. The proposed project would be subject to the City's Site Plan and Design Review process to ensure that development under the proposed project would be consistent with applicable plans, ordinances, and development regulations and to ensure the development of complete and well-structured neighborhoods whose physical layout and land use mix promote walking to services, biking, and transit users. The overall goal of the proposed project is the orderly and systematic development of the project area that is compatible with site characteristics and consistent with the City's goals and policies and provides a balance of residential densities. Specific objectives of the proposed project related to this policy include the objectives to develop a higher density, transit-supportive, mixed-use environment that would provide opportunities to live and work in North Natomas; integration of the project area into the fabric of existing development in North Natomas; and integration of a combination of proximal uses, including commercial, employment, residential, and other use opportunities and services.
• **NN.LU 1.9 Housing Type Diversity.** To provide housing for the wide range of residents in the North Natomas Community, the City shall ensure residential developers provide a variety of housing types in each neighborhood. As a guideline to ensure a variety of housing types, the maximum percentage of any dominant housing type should be 85 percent and the minimum of any minor housing type should be 5 percent. Residential developers are encouraged to be innovative and responsive to the changing lifestyles of future residents and trends toward transit, telecommuting, zero-emission vehicles, and others. *(RDR)*	Development allowed under the proposed project could include a variety of housing types. The proposed project would be subject to the City's Site Plan and Design Review process to ensure that development under the PUD would be consistent with applicable plans, ordinances, and development regulations, including applicable requirements related to the maximum and minimum percentages of housing types.

TABLE 3-1
INNOVATION PARK PLANNED UNIT DEVELOPMENT
SACRAMENTO 2035 GENERAL PLAN—RELEVANT GOALS AND POLICIES

Applicable 2035 General Plan Goal/Policy	Discussion
• **NN.LU 1.14 Maximum Apartment Complex Size.** The City shall ensure the maximum size of an apartment complex is 200 units and 8 acres. High-density residential projects in excess of 200 units and 8 acres must create multiple apartment complexes separated by a local street or other linkage. Apartment complex developers shall promote architectural variety and the use of varied exterior construction materials on adjacent complexes. Also, the height of apartment complexes shall be compatible with adjacent to single-family residences. The City shall promote the placement of one- and two-story multifamily units along streets and other linkages as a visual break. *(RDR)*	The proposed project would be subject to the City's Site Plan and Design Review process to ensure that development under the proposed project would be consistent with applicable plans, ordinances, and development regulations, including applicable requirements related to maximum apartment complex size.
Sports Complex	
• **NN.LU 1.46 Joint-Use Parking with Regional Transit**. The City shall provide three hundred joint-use park-n-ride spaces for Regional Transit near the Arena light rail station. Any joint use of the sports complex parking lot shall not interfere with parking for stadium or arena events. *(RDR)*	The project area may be served by the future Sacramento Regional Transit District Downtown-Natomas-Airport light rail line. If the light rail line is extended through the project area, a park-n-ride lot will be constructed adjacent to the station. The project applicant will coordinate with Regional Transit as to how many parking spaces to provide in the lot.
Mobility	
Transit System	
• **NN.M 1.9 Park-n-Ride Facilities**. The Downtown Natomas Airport (DNA) corridor Route Refinement Report identifies a need for a minimum of 900 parking spaces in the North Natomas community. The report identifies 375 park-n-ride spaces on 3.3 acres at the Truxel and I-80 station, and 225 spaces on 2 acres at the Town Center station. These 600 spaces would be exclusively park-n-ride spaces. The last 300 spaces would be joint-use spaces located at the Arena station. Any additional park-n-ride spaces required to meet air quality or other goals and park-n-ride spaces at bus transit centers shall be designated as permanent joint-use. Park-n-ride facilities shall maximize the use of shared parking arrangements with any public or private use. *(RDR/MPSP)*	If light rail transit is extended through the project area, a park-n-ride lot will be constructed adjacent to the station in the area. The project applicant will coordinate with Regional Transit as to how many parking spaces to provide in the lot.

NOTES: City = City of Sacramento; FAR = floor area ratio; proposed project = the proposed Innovation Park PUD, including the California Northstate Medical Center; PUD = Planned Unit Development

SOURCE: Data compiled by Environmental Science Associates in 2021

Planning and Development Code

The City of Sacramento's Planning and Development Code (Sacramento City Code Title 17) is intended to implement the General Plan through the adoption and administration of zoning laws, ordinances, rules, and regulations. To achieve this outcome, the Planning and Development Code regulates all of the following:

- The use of land, buildings, or other structures.
- The location, height, and size of buildings or structures, yards, courts, and other open spaces; the amount of building coverage permitted in each zone; and population density.
- The physical characteristics of buildings, structures, and site development, including the location, height, and size of buildings and structures; yards, courts, and other open spaces; lot coverage; land use intensity through regulation of residential density and floor area ratios; and architectural and site design.

Existing Zoning

The project area is zoned as Sports Complex/Planned Unit Development (SPX-PUD). The SPX zone is intended to ensure the proper development and use of land and improvements to achieve a sports complex that accommodates the design requirements of professional and amateur sports, and that accommodates events, exhibitions, and performances that provide for the education, information, recreation, culture, or entertainment of Sacramento area residents and visitors, in accordance with the specific land use policies of the General Plan, community plans, and the PUD guidelines (Sacramento City Code Section 17.224.200). A conditional use permit is required for each use in the SPX zone. Permitted uses within an SPX zone are generally limited to those that support a large sports complex or are temporary.

Proposed Zoning

The project area's current zoning designation would be replaced with General Commercial Planned Unit Development (C-2 PUD) zoning based on the existing zoning included in the City's Planning and Development Code. As described in Sacramento City Code Section 17.216.710, the C-2 zone allows for a variety of single- and multi-family residential uses, commercial and institutional uses, and industrial and agricultural uses. The C-2 zone allows for a variety of conditional and accessory uses, maximizing the flexibility of these zones. The designation of PUD zoning allows the City to designate specific deviations from the Planning and Development Code, allowing for the expansion or reduction of development limits applied to particular zoning designations. Maximum height will be determined by the PUD. The current draft of the PUD allows a 280-foot height for hospital towers, and 85-foot height for all other buildings in the Health District.

3.2.4 Land Use Evaluation

This section evaluates the proposed project for compatibility with existing and planned adjacent land uses and for consistency with adopted plans, policies, and zoning designations. Physical environmental impacts resulting from implementation of the proposed project are discussed in the applicable environmental resource sections of this EIR. This section differs from those impact discussions in that only compatibility and consistency issues are discussed, as opposed to

environmental impacts and mitigation measures. This discussion complies with Section 15125(d) of the CEQA Guidelines, which requires EIRs to discuss inconsistencies with general plans and regional plans as part of the environmental setting.

Compatibility with Existing and Planned Adjacent Land Uses

Innovation Park PUD

As described above and in Chapter 2, *Project Description*, development under the proposed project could provide a variety of housing and employment opportunities, as well as shopping, recreation, entertainment, and other services on the site of Sleep Train Arena and the former Sacramento Kings practice facility, both of which are no longer used. As discussed above, uses adjacent to the project area include mixed-use commercial, multi-family residential, and vacant land uses. The proposed project would result in gradual new development (new buildings and new uses) on the site of the Sleep Train Arena and former Sacramento Kings practice facility. Implementation of the proposed project could result in physical environmental effects on existing and planned adjacent land uses (which are addressed in the environmental resource sections in Chapter 4 of this EIR). However, the proposed project would not allow for any new urban uses that would be anticipated to be incompatible with similar uses in adjacent urban neighborhoods and communities. New urban development that would result from implementation of the proposed project would tend to reinforce and support existing land use patterns and would not be incompatible with existing and planned adjacent land uses.

CNU Medical Center

Existing land uses adjacent to the site of the proposed CNU Medical Center include developed and undeveloped areas of the Sleep Train Arena site to the north; multi-family residential to the west; medical, office, and commercial uses and vacant land to the southwest; and multi-family residential, commercial, and vacant land uses to the south and southeast.

The proposed CNU Medical Center would be located on approximately 35 acres in the southwest portion of the project area (see Figure 2-21 in Chapter 2, *Project Description*). The proposed CNU Medical Center would include a hospital and central plant building and associated office, educational, residential, and other uses (see Chapter 2). The hospital would consist of a nine-story central tower and a single seven-story patient-bed wing. A helistop would be constructed on the roof of the east wing patient-bed tower.

Activities on and around the site of the proposed CNU Medical Center would be comparable to those experienced around Sacramento's other urban medical centers, including Sutter Medical Center, Sacramento, in Midtown; Mercy General Hospital in East Sacramento; and the University of California, Davis Medical Center, which borders the Elmhurst and Oak Park neighborhoods. Potential air quality or noise impacts on adjacent properties are evaluated in Section 4.2, *Air Quality*, and Section 4.8, *Noise and Vibration*, of this EIR.

Consistency with Adopted Plans, Policies, and Zoning

Sacramento Area Council of Governments MTP/SCS

Innovation Park PUD

As described above, the goals of the 2020 MTP/SCS are to link land use and transportation facilities and programs in a way to provide long-term environmental and social benefits, including shortened commute times, reduced traffic congestion, less dependence on automobiles, improved air quality, reduced greenhouse gas emissions, reduced distances traveled between jobs and housing, and housing choices more aligned with the Sacramento region's changing demographics. While the MTP/SCS is not a land use plan, its success is based on certain assumptions about land use and development.

The project area is included in the 2020 MTP/SCS as an Established Community type, which describes areas that are generally considered built out, meaning that relatively little vacant land is available for new growth. For this reason, the 2020 MTP/SCS land use forecast projects only an 11.4 percent increase in housing in this community type, which will occur primarily through the buildout of existing subdivisions and empty infill lots. The 2020 MTP/SCS forecasts the addition of 81,365 new housing units and 146,053 new employees in the Established Communities community type by 2040.[4]

Development under the proposed project, including the proposed CNU Medical Center, would be consistent with the land use, density, and intensity of development anticipated in the Established Community type under the 2020 MTP/SCS, and the land use designation in the proposed project would accommodate the assumptions of the 2020 MTP/SCS for the Established Community type. The MTP/SCS is a transportation plan, not a land use plan, and the "consistency" of a land use project is determined by SACOG; however, based on the City's review of the MTP/SCS, the proposed project, which would comprise an infill project adjacent to a future planned light rail station, is consistent with and would promote the ability of SACOG and the region to achieve the goals established in the 2020 MTP/SCS.

CNU Medical Center

As discussed above for the overall Innovation Park PUD, development of the proposed CNU Medical Center would be consistent with the land use, density, and intensity of development anticipated in the Established Community type under the 2020 MTP/SCS, and the land use designation for the proposed CNU Medical Center would accommodate the 2020 MTP/SCS assumptions for the Established Community type. As stated above for the overall PUD, the MTP/SCS is a transportation plan, not a land use plan, and the "consistency" of a land use project is not readily established; however, based on the City's review of the MTP/SCS, the proposed CNU Medical Center, an infill development that would locate employment and education uses near existing and planned residential use to reduce vehicle miles traveled, would promote the goals of the MTP/SCS and would not frustrate the ability of SACOG and the region to achieve the goals established in the 2020 MTP/SCS.

[4] Sacramento Area Council of Governments. 2019. *2020 Metropolitan Transportation Plan/Sustainable Communities Strategy.* Adopted November 18, 2019. Page 42.

City of Sacramento 2035 General Plan

Innovation Park PUD

The proposed project is designed to facilitate future development on the site of the Sleep Train Arena and former Sacramento Kings practice facility, which are no longer used for their primary purpose, as the Kings now conduct their operations at the Golden 1 Center and adjacent practice facility in Downtown Sacramento.

The project area is currently under the Urban Center High land use designation. Under the proposed project, the entire project area would be under the 2035 General Plan's Urban Center Low land use designation. The Urban Center Low designation provides for a balanced mix of high-density/high-intensity, single-use commercial or residential development or horizontal and vertical mixed-use development, including retail, service, office, and/or residential uses; gathering places such as plazas, courtyards, or parks; and compatible public, quasi-public, and special uses. The proposed project would support and further existing General Plan policies by focusing development on infill areas by encouraging the development of vacant or underused parcels within the existing urban fabric. Development allowed under the proposed project would be consistent with what is assumed to occur under the General Plan. As demonstrated in Table 3-1 above, the proposed project is considered consistent with the goals and policies contained in the 2035 General Plan.

CNU Medical Center

The proposed CNU Medical Center would be located on approximately 35 acres in the southwest portion of the project area. The proposed medical center campus would include a hospital and central plant building and associated office, educational, residential, and other uses (see Chapter 2, *Project Description*). The proposed CNU Medical Center would support and further existing policies of the 2035 General Plan by focusing development on infill areas by encouraging the development of vacant or underused parcels within the existing urban fabric. Development of the proposed CNU Medical Center would be consistent with what is assumed to occur under the General Plan. As demonstrated in Table 3-1 above, the proposed CNU Medical Center is considered consistent with the goals and policies contained in the 2035 General Plan.

North Natomas Community Plan

Innovation Park PUD

The NNCP envisions an urban form for North Natomas that includes a well-integrated mixture of residential, employment, commercial, and civic uses, interdependent with quality transit service and a radial network of connections linking activity centers with streets, transit routes, and linear parkways with pedestrian/bike trails. The North Natomas community is envisioned to be interdependent with transit, with high-density residential uses and intense employment generators located near transit to provide riders for the light rail stations and bus transit centers. Employment centers, located at light rail stations and along the freeways, will be mixed-use centers consisting of primary employment generators and secondary support retail, industrial, and residential uses, serving the centers' employees and employers. Integration of land uses will help decrease the distance and travel time between uses.

The NNCP land use designation for the project area is Urban Center High. Under the proposed project, the entire project area would be under the NNCP's Urban Center Low land use designation. As demonstrated in Table 3-1 above, the proposed project is considered consistent with the goals and policies contained in the NNCP.

CNU Medical Center

The proposed CNU Medical Center would support the NNCP's vision of employment-generating uses for North Natomas. As demonstrated in Table 3-1 above, the proposed CNU Medical Center is considered consistent with the goals and policies contained in the NNCP.

Planning and Development Code

Innovation Park PUD

As discussed above, the existing zoning for the project area is Sports Complex/Planned Unit Development (SPX-PUD). Under the proposed project, the current zoning designation within the project area would be replaced with General Commercial Planned Unit Development (C-2 PUD) zoning, based on the existing zoning included in the City's Planning and Development Code (see Figure 2-6), with a General Commercial (C-2) zone designation for the site of the proposed CNU Medical Center. As described in Sacramento City Code Section 17.216.710, the C-2 zone allows for a variety of single- and multi-family residential uses, commercial and institutional uses, and industrial and agricultural uses. The C-2 zone also allows for a variety of conditional and accessory uses, maximizing the flexibility of these zones. The designation of special planning district zoning allows the City to designate specific deviations from the Planning and Development Code, allowing for the expansion or reduction of development limits applied to particular zoning designations. The proposed project would establish assumed levels of development for the project area as a whole.

The proposed project would be subject to the City's Site Plan and Design Review process, which would ensure that development of the project area would be consistent with the goals, policies, objectives, and other provisions of the proposed project, the project's EIR and mitigation monitoring program, and applicable ordinances and development regulations. The Site Plan and Design Review process would also ensure that development allowed under the proposed project would be compatible with surrounding uses. Consequently, the proposed project would be consistent with the provisions and requirements of the Planning and Development Code.

CNU Medical Center

The current SPX-PUD zoning designation on the site of the proposed CNU Medical Center would be replaced with the General Commercial (C-2) zone designation. The designation of PUD zoning allows the City to designate specific deviations from the Planning and Development Code, allowing for the expansion or reduction of development limits applied to particular zoning designations. Maximum height will be determined by the PUD. The current draft of the PUD allows a maximum 280-foot height for hospital towers and a maximum 85-foot height for all other buildings in the Health District.

The proposed CNU Medical Center would be subject to the City's Site Plan and Design Review process, which would ensure that development of the proposed medical center campus would be consistent with the project's EIR and mitigation monitoring program, and with applicable

ordinances and development regulations. The Site Plan and Design Review process would also ensure that development of the proposed CNU Medical Center would be compatible with surrounding uses. Consequently, the proposed CNU Medical Center would be consistent with the provisions and requirements of the Planning and Development Code.

3.3 Population, Employment, and Housing

This section evaluates the potential effects of the proposed project in relation to population, employment, and housing. This section compares the predicted population under the proposed project, including the proposed CNU Medical Center, to the planned population in the 2035 General Plan to determine whether development under the proposed project would induce substantial growth that is inconsistent with the approved land use plan for the area. This section also describes existing employment levels and the existing jobs/housing relationship in the city and evaluates the potential for employment increases that would result from implementation of the proposed project, including the proposed CNU Medical Center, to result in substantial changes to the jobs/housing relationship.

3.3.1 Environmental Setting

Population

Regional Population

The counties that compose the SACOG and the greater Sacramento region—El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba Counties—have experienced steady growth over the past decade. The regional population increased by a total of 10.5 percent between 2010 and 2021, from approximately 2,316,019 in 2010 to 2,559,566 in 2021.[5] SACOG estimates that the Sacramento region will have added 620,000 people by 2040.[6]

City of Sacramento Population

Between 2010 and 2021, the population of the city of Sacramento increased by 10.5 percent. According to the California Department of Finance, the city's population was 466,488 in 2010 and 515,673 in 2021.[7]

North Natomas Population

Table H 3-2 of the City's 2013–2021 Housing Element presents 2000 and 2010 populations by community plan area. According to the Housing Element, in comparison to all community plan areas in Sacramento, the NNCP area had the highest population growth between 2000 and 2010,

5 California Department of Finance. 2021. E-4 Population Estimates for Cities, Counties, and the State, 2011–2021, with 2010 Census Benchmark. Sacramento, CA. May 2021.

6 Sacramento Area Council of Governments. 2019. *2020 Metropolitan Transportation Plan/Sustainable Communities Strategy*. Adopted November 18, 2019. Page 24.

7 California Department of Finance. 2021. E-4 Population Estimates for Cities, Counties, and the State, 2011–2021, with 2010 Census Benchmark. Sacramento, CA. May 2021.

increasing by more than 53,000 people, from 2,321 in 2000 to 55,582 in 2010.[8] The Housing Element projects the population of North Natomas to be 89,025 in 2035.[9]

Employment

The Sacramento region is a hub for state government and related industries, health services, financial services, and local/regional-serving retail. According to the City's 2013–2021 Housing Element, in 2008 there were 299,732 jobs in Sacramento. The number of jobs is expected to increase to 390,112 by 2035, an increase of 30 percent from 2008 to 2035.

Table H 3-9 of the Housing Element shows 2008 existing employment data and 2020 and 2035 employment projections for the Sacramento Policy Area by community plan area. The Housing Element also projected the NNCP area to experience substantial employment growth, adding 6,489 jobs by 2020 (for a total of 28,018 jobs) and 12,151 jobs by 2035 (for a total of 40,169 jobs).

Housing

The economic recession of 2008 caused a downturn in housing values and new-home construction across the Sacramento region, in line with general statewide and national trends; however, the region has subsequently experienced a period of economic growth. In addition, housing values across the region are considerably lower than in the Bay Area. As such, Sacramento remains a more affordable housing option for people working and commuting to other regions in Northern California. According to the California Department of Finance, there are 390,112 housing units in the city of Sacramento in 2021 and a vacancy rate of 5.9 percent.[10]

Jobs/Housing Relationship

The *jobs/housing relationship* is used to describe the ratio of jobs to residences in a particular community or geographic area. A low jobs/housing ratio (i.e., few jobs for the number of households in the area) indicates that many workers commute out of their residence areas to their places of employment. In areas with a high jobs/housing ratio (i.e., many jobs for the number of households in the area), jobs need to be filled by workers from outside the area. A jobs/housing ratio of 1.0 is considered to be in "balance," reflecting that there is one job available per household. Areas with high or low jobs/housing ratios are likely to generate longer home-to-work commutes.

When assuming that the affordability of housing and the incomes of jobs in the local market are paired reasonably closely, if the quantity and proximity of housing units is proportionate to the quantity and proximity of jobs, the majority of employees would be able to work and reside in the same community. A more balanced relationship between jobs and housing can help reduce the number of vehicle trips and overall vehicle miles traveled, as workers experience shorter commutes to employment within the same proximate residential areas. Such a reduction in vehicle trips and vehicle miles traveled would tend to reduce levels of air pollutant emissions

8 City of Sacramento. 2013. *City of Sacramento 2013–2021 Housing Element*. Adopted December 17, 2013. Page H 3-5.

9 City of Sacramento. 2013. *City of Sacramento 2013–2021 Housing Element*. Adopted December 17, 2013. Page H 3-6.

10 California Department of Finance. 2018. E-5 Population and Housing Estimates for Cities, Counties and the State, January 1, 2011–2021. Sacramento, CA. May 2021.

(including greenhouse gas emissions) and would create less vehicular congestion on area roadways and intersections.

It is important that the determination of the jobs/housing relationship focuses on whether housing in the community is affordable to local employees. The availability of an adequate housing supply, presenting a range of price levels that include prices that are reasonably affordable for local employees, can potentially reduce the commute mileage between homes and worksites.

In 2020, there were approximately 252,702 employees in the city of Sacramento, with 193,052 households.[11] This generates a jobs/housing ratio of 1.3, reflective of Sacramento's continuing role as the regional employment center, and demonstrating that employees commute from other neighboring communities in the region to work in the city.

3.3.2 Analysis

Population

The proposed project, including the proposed CNU Medical Center, may include 3,071 residential units. To determine the estimated population increase that may result from implementation of the proposed project, this analysis assumes an average household size of 2.66 persons, which is the average household size in the city of Sacramento based on the latest census data.[12] Using this factor, the projected population increase associated with the proposed project may be 8,169 persons. As discussed earlier in this chapter, population increases and decreases are not, in and of themselves, considered physical environmental effects. Physical environmental effects resulting from population growth associated with the proposed project, including the proposed CNU Medical Center, are examined in the appropriate environmental resource sections in Chapter 4 of this EIR.

Jobs/Housing Relationship

The commercial, office, and medical uses that may be developed as part of the proposed project may result in approximately 7,420 new jobs anticipated with full development of the proposed CNU Medical Center. This total includes 4,345 employees associated with the hospital and 980 employees associated with the CNU School of Medicine and other educational colleges and 2,095 associated with commercial/retail, office, and other uses.

Consequently, implementation of the proposed project, including the proposed CNU Medical Center, would result in an increase in the projected imbalance between jobs and housing in the City of Sacramento. However, as noted in the 2035 General Plan Master EIR, over time, several factors, including recent demographic trends and ongoing housing and development patterns, would likely result in a more balanced ratio of jobs and housing in the city, along with a reduction in vehicle trips and associated pollutant emissions and congestion on area roadways and intersections.

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11 City of Sacramento. 2021. City of Sacramento, Economic Development Department: Key Demographics. Available: http://www.cityofsacramento.org/Economic-Development/Why-Sacramento/Demographics-and-Market-Information/Key-Demographics. Accessed July 23, 2021.

12 U.S. Census Bureau. 2021. QuickFacts, Sacramento City, California; Sacramento County, California. Available: https://www.census.gov/quickfacts/fact/table/sacramentocitycalifornia,sacramentocountycalifornia/. Accessed July 23, 2021.

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CHAPTER 4
Environmental Setting, Impacts, and Mitigation Measures

4.0 Introduction to the Analysis

This draft environmental impact report (EIR) evaluates and documents the physical environmental effects that could result from implementing the proposed Innovation Park Planned Unit Development (Innovation Park PUD) project, including the California Northstate University (CNU) Medical Center, in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et seq.) and the CEQA Guidelines (California Code of Regulations Title 14, Section 15000 et seq.). The proposed Innovation Park PUD and the CNU Medical Center are together referred to herein as the *proposed project*, and the Innovation Park PUD area is referred to as the *project area.*

Sections 4.1 through 4.11 of this EIR consider the regulatory background, existing conditions, and environmental impacts associated with implementation of the proposed project, as well as mitigation measures to reduce the impact of project-specific and cumulative environmental impacts and level of significance of impacts following mitigation.

This EIR discusses the physical environmental effects that could result from implementation of the proposed project. Because certain environmental effects that are typically analyzed under CEQA would not occur under the proposed project, these topics are not analyzed further in Sections 4.1 through 4.11 of this EIR, and are instead considered in Section 4.0.3, below.

4.0.1 Definitions of Terms Used in the EIR

This EIR uses a number of terms that have specific meaning under CEQA. Among the most important of the terms used in the EIR are those that refer to the significance of environmental impacts. The following terms are used to describe the environmental effects of the proposed project:

- **Significance Criteria:** The criteria used by the City of Sacramento, as lead agency under CEQA, to determine whether the magnitude of an adverse, physical environmental impact would be significant. In determining the level of significance, the analysis recognizes that the proposed project must comply with relevant federal, state, regional, and/or local regulations and ordinances that are regularly enforced through building codes and standards and/or other means.

- **Significant Impact:** The impact conclusion reached if the project would result in a substantial adverse change in the physical conditions of the environment. Significant impacts are identified by the evaluation of project-related physical change compared to specified significance criteria. A significant impact is defined as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance."[1]

- **Less-than-Significant Impact:** The impact conclusion reached when the adverse physical environmental effect caused by the project would not exceed the applicable significance criterion.

- **Significant and Unavoidable Impact:** The impact conclusion reached when the project would result in a substantial adverse physical change in the environment that cannot be feasibly avoided or mitigated to a less-than-significant level, that is, to a magnitude below the applicable significance criterion.

- **Cumulative Impact:** Under CEQA, "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."[2] Like any other significant impact, a significant cumulative impact is one in which the cumulative adverse physical environmental effect would exceed the applicable significance criterion and the project's contribution is "cumulatively considerable."[3] If the contribution of a project to a significant cumulative impact is less than considerable, the cumulative impact would be less than significant.

- **Mitigation Measure:** A feasible action that could be taken that would avoid or reduce the magnitude of a significant impact. Section 15370 of the CEQA Guidelines defines mitigation as:

  (a) Avoiding the impact altogether by not taking a certain action or parts of an action;

  (b) Minimizing impacts by limiting the degree of magnitude of the action and its implementation;

  (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

  (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and

  (e) Compensating for the impact by replacing or providing substitute resources or environments.

- **Feasible**: Under CEQA, "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."[4]

1 CEQA Guidelines, Section 15382.
2 CEQA Guidelines, Section 15355.
3 CEQA Guidelines, Section 15130(a).
4 CEQA Guidelines, Section 15364.

4.0.2 Section Format

Chapter 4 is divided into technical sections (e.g., Section 4.1, *Aesthetics, Light, and Glare*) that present for each environmental resource issue area the physical environmental setting, regulatory setting, significance criteria, methodology and assumptions, and impacts on the environment. Where required, potentially feasible mitigation measures are identified to lessen or avoid significant impacts. Each section includes an analysis of project-specific and cumulative impacts for each issue area.

Introduction

Each technical environmental section begins with an introduction that briefly discusses the issues addressed in the section, identifies issues that may have been raised in Notice of Preparation scoping comments, and identifies major information sources.

Environmental and Regulatory Setting

Each section provides a description of the proposed project's environmental setting and the regulatory setting as it pertains to relevant environmental resource issues. The environmental setting provides a point of reference for assessing the environmental impacts of the proposed project and alternatives. The environmental setting describes the conditions that exist before implementation of the project. This setting establishes the baseline against which the proposed project and alternatives are compared to assess the significance of environmental impacts.

The environmental setting section is structured to first provide a general discussion of the conditions. Following this general discussion, the environmental setting describes the particular relevant environmental setting for the Innovation Park PUD area, followed, where it differs, by a specific discussion of the existing or baseline conditions for the CNU Medical Center site.

The regulatory setting presents relevant information about federal, state, regional, and/or local laws, regulations, plans and/or policies that pertain to the environmental resources addressed in each section.

Significance Criteria

Each section presents significance criteria against which the adverse physical environmental effects of the proposed project are compared to determine the significance of impacts. The significance criteria used for the proposed project were derived from the City of Sacramento's established significance standards, which, in turn, reflect policies of the 2035 General Plan and other criteria applicable under CEQA, including thresholds established by trustee and responsible agencies and Appendix G of the CEQA Guidelines.

Methodology and Assumptions

Each section describes the analytical methods and key assumptions used to evaluate the effects of the proposed project.

Impacts and Mitigation Measures

The methodology description is followed by a presentation of the adverse physical environmental impacts of the proposed project, and, if impacts would be significant or potentially significant, potentially feasible mitigation measures that, if implemented, could avoid or reduce the magnitude of the significant impact. As required by CEQA Guidelines Section 15126.2(a), direct, indirect, short-term, long-term, on-site, and/or off-site impacts are analyzed, as appropriate, for each environmental impact.

Where enforcement of applicable laws, regulations, and standards exists and compliance can be reasonably anticipated, this EIR assumes that the proposed project would meet the requirements of applicable laws and other regulations.

The impact and mitigation discussions in each section are organized based on impact statements, prefaced by a number in **boldfaced** type. An explanation of each impact is followed by an analysis of and conclusion regarding its significance, based on the stated significance criterion. The analysis of environmental impacts considers the impacts that could be caused during both construction and operation of the proposed project.

The organization of each impact discussion presents impacts caused by the Innovation Park PUD as a whole. Following the analysis of the proposed Innovation Park PUD, which is inclusive of the CNU Medical Center, a focused impact analysis is presented for the proposed CNU Medical Center. This analysis differs from the analysis of the Innovation Park PUD in that it addresses any effects that would be specific to the CNU Medical Center project and would otherwise not be related to development in the rest of the Innovation Park PUD.

Where the impact for the Innovation Park PUD and/or CNU Medical Center would be significant, it is followed by a presentation of potentially feasible mitigation measures, including an indication of whether the measure applies to the PUD as a whole, or to only the CNU Medical Center site. While this EIR includes information about potentially feasible mitigation measures, the Sacramento City Council would make the final determination of feasibility of such measures.

The magnitude of reduction of an impact and the potential effect of that reduction in magnitude on the significance of the impact is presented. Each impact discussion concludes with a statement that the impact, following implementation of the mitigation measure(s) and/or the continuation of existing policies and regulations, either would be reduced to a less-than-significant level or would remain significant and unavoidable.

An example of the format is shown below.

Impacts and Mitigation Measures

Impact 4.X-1: Impact statement.

Innovation Park PUD

A discussion of the potential impact of the Innovation Park PUD on the resource is introduced in paragraph form. To identify impacts that may be site- or project element–specific, where

appropriate, the discussion differentiates between construction-related effects and operational effects. A statement of the level of significance before application of any mitigation measures is provided in **bold**.

CNU Medical Center

This analysis examines impacts that would be only related to the construction or operation of the CNU Medical Center, or that are unique to its site. A significance conclusion specific to the CNU Medical Center site is drawn and indicated in **bold**.

Mitigation Measure

If all impacts for the proposed Innovation Park PUD and/or CNU Medical Center are determined to be less than significant, the text here states, "None required."

If one or more impacts are determined to be potentially significant, mitigation is listed here. Similar to the delineation of the impact analyses, mitigation measures are labeled based on the same components of the project ("PUD" for the Innovation Park PUD and "CNU" for the CNU Medical Center). A statement of the level of significance before application of any mitigation measures is provided in **bold**. The initials following the measure number (for example, 4.X-1) indicate whether the measure applies to the entire PUD area or only to the CNU Medical Center site.

> **Mitigation Measure 4.X-1 (PUD, CNU)**
>
> Recommended mitigation measure will be presented here and numbered to match the impact.

Where appropriate, one or more potentially feasible mitigation measures are described. If necessary, a statement of the degree to which the available mitigation measure(s) would reduce the significance of the impact is included in **bold**. The initials following the measure number (for example, 4.X-1) indicate whether the measure applies to the entire PUD area or only to the CNU Medical Center site.

Cumulative Impacts

An analysis of cumulative impacts follows the evaluation of project-specific impacts and mitigation measures in each section. A cumulative impact is an impact that is created as a result of the combination of the project evaluated in the EIR in conjunction with other past, present, and reasonably foreseeable projects causing related impacts.[5] The cumulative impact analysis in this EIR evaluates the buildout of the proposed Innovation Park PUD, as well as other projects anticipated to be developed in the same timeframe. Several projects have been approved near the Innovation Park PUD area but have not yet been constructed, are not yet occupied, or are very newly constructed. Those projects are summarized in **Table 4.0-1**. and are included in the cumulative impacts analysis in this EIR.

[5] CEQA Guidelines Section 15355.

TABLE 4.0-1
NEARBY PROJECTS

Project	Location	Description
1. North Natomas Community Center and Aquatics Complex (NNCCAC)	North side of New Market Drive between Town Center Drive and Via Ingoglia	Community Center (16,000 square feet) Aquatic Center (Swimming Pools, Concession Areas – 35,000 square feet)
2. New Market Drive Segment	Town Center Drive to Via Ingoglia	New two-lane roadway with median
3. Creekside Apartments	North and south sides of New Market Drive east of East Commerce Way	120 apartments
4. Centene	West side of East Commerce Way between Arena Drive and future Snowy Egret Drive	1,250,000 square feet office
5. Medley Apartments	East side of East Commerce Way South of Arena Main Entrance	160 apartments
6. Aloft Hotel	3041 Advantage Way	131 rooms
7. Natomas Town Center East	North side of Del Paso Road between Town Center Drive and Via Ingoglia	77,553 square feet retail
8. Vibra Rehab Hospital	10 Advantage Court	62,061 square feet hospital
9. Spanos Apartments	Southeast corner Arena Boulevard and Innovator Drive	293 apartments
10. Innovate Corporate Center	Northeast corner of East Commerce Way and Arena Boulevard	120 room hotel
11. 20 Advantage Court	20 Advantage Court	124 room hotel
12. Provance Condominiums	Southwest corner East Commerce Way and Benefit Way	237 condominiums
13. Natomas Crossing Area 3	Southwest corner East Commerce Way and Arena Boulevard	302,206 square feet office
14. Arena Seniors	Southwest corner Truxel Road and Terracina Drive	240 apartments
15. Natomas Crossing Office	Southeast corner Advantage Way and Advantage Court	122,500 square feet office

SOURCE: DKS Associates, 2019.

The beginning of the cumulative impact analysis in each technical section includes a description of the cumulative analysis methodology and the geographic or temporal context in which the cumulative impact is analyzed (e.g., the city of Sacramento, the Sacramento Valley Air Basin, the Sacramento Metropolitan Air Quality Management District, Sacramento Area Council of Governments projections, other activity concurrent with project construction). In some instances, a project-specific impact may be less than significant, but when considered in conjunction with other cumulative projects or activities, may be significant or potentially significant.

As noted above, where a cumulative impact would be significant when compared to existing or baseline conditions, the analysis must address whether the project's contribution to the significant cumulative impact is "considerable." If the contribution of the project is considerable, then the EIR must identify potentially feasible measures that could avoid or reduce the magnitude of the project's contribution to a less-than-considerable level. If the project's contribution is not

considerable, the cumulative impact would be less than significant and no mitigation of the project's contribution is required.[6]

The cumulative impacts analysis is formatted in the same manner as the project-specific impacts, as shown above, except that it assumes the entirety of the proposed Innovation Park PUD, including the CNU Medical Center, and thus there is no need for separate discussion for CNU Medical Center impacts.

4.0.3 Issues Previously Determined to be Less than Significant

CEQA requires that the discussion of any significant effect on the environment address substantial, or potentially substantial, adverse changes in the physical conditions existing within the vicinity of the proposed project. Pursuant to PRC Section 21000 and CEQA Guidelines Sections 15126.2(a) and 15128, a lead agency need not provide a detailed discussion of the environmental effects that would not be significant, and may instead provide a brief statement of dismissal for applicable environmental issues. Upon review of the proposed Innovation Park PUD, including the CNU Medical Center, the City of Sacramento determined that because of the physical characteristics of the project area and the project as proposed, several environmental issues would involve less-than-significant impacts and therefore would not require further analysis in the Draft EIR. The discussions below provide brief rationales for the determinations that these issues do not require further consideration in this Draft EIR, as the proposed project would not result in significant environmental effects on the following resources.

Agriculture and Forestry Resources

The project area is a disturbed, partially developed site surrounded by mixed-use commercial, multi-family residential, and vacant land uses. No existing forested or agricultural lands or lands being used for forestry production exist in the project area or the immediate vicinity. Land in the Innovation Park PUD area is classified as urban/built-up land, non-irrigated farmland, grazing land, or other land.[7] Therefore, no potential exists for the proposed project to cause losses to agriculture or forestry resources, and this topic is not discussed further in this Draft EIR.

Geology, Soils, Seismicity, and Paleontological Resources

Seismic Ground Shaking

The project area is not located within an Alquist-Priolo Earthquake Fault Zone, no known faults exist in the area, and the site is not within a Seismic Hazards Zone or a Zone of Required Investigation. Although fault rupture is unlikely to occur in or near the project area,[8] groundshaking and subsequent vibration damage to structures and infrastructure could result from seismic hazards that take place outside of the project vicinity. Additionally, these seismic events

6 CEQA Guidelines Section 15130(a)(3).

7 California Department of Conservation, 2016. California Important Farmland Finder. Available: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed September 21, 2021.

8 City of Sacramento. 2014. *City of Sacramento 2035 General Plan Update Draft Master Environmental Impact Report.* SCH #2012022006. August 2014. Page 4.5-4.

could result in liquefaction or settlement in or near the project area, as much of the site and its vicinity are underlain primarily by alluvial soils, including Clear Lake clay, Jacktone clay, and Cosumnes silt loam,[9] which may become unstable during seismic ground shaking.

Pursuant to 2035 General Plan Policy EC 1.1.2, the City of Sacramento requires that geotechnical investigations of project sites be completed before construction permits are issued. These geotechnical investigations are intended to establish the potential of a site to experience ground rupture, groundshaking, and liquefaction as a result of seismic events, and to have expansive soils and undergo subsidence. As required by the City, individual projects in the Innovation Park PUD area, including the CNU Medical Center, would implement the recommendations identified in the geotechnical investigations. Further, project structures would be designed using sound engineering judgment and the latest California Building Code requirements, which include additional standards for hospitals under the authority of OSHPD. The seismic design provisions of the CBC would ensure that structures can resist minor earthquakes without damage, moderate earthquakes without structural damage, and withstand major earthquakes without collapse. Note also that environmental analyses under CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents. (*California Building Industry v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 469.) Therefore, impacts associated with seismic groundshaking would be less than significant, and this issue is not addressed further in this Draft EIR.

Soil Erosion

Because of the relatively flat topography of the project area, the proposed project would not generate the potential for substantial soil erosion or loss of topsoil, although construction activities such as demolition, excavation, grading, and trenching would result in the temporary exposure of soils to potentially erosive influences like stormwater and wind. Compliance with requirements of the National Pollutant Discharge Elimination System (NPDES) (see discussion of hydrology and water quality below) would also limit the potential for erosion. However, 2035 General Plan Policy ER 1.1.7 requires developers to implement measures to prevent erosion and sediment loss during construction activities, and requires development to occur in acfcordance with the City of Sacramento's erosion and sediment control ordinance.

Chapter 15.88 of the Sacramento City Code, the City of Sacramento Grading Ordinance, establishes regulations that control, among other considerations, land disturbances, erosion, and sedimentation resulting from construction activities. The ordinance requires that any grading occurring in the city of Sacramento, unless exempted under the provisions of the ordinance, be approved by the Director of the City of Sacramento Department of Utilities before grading occurs. This ordinance also mandates preparation and approval of a preliminary grading plan, in addition to erosion and sediment control plans, for each project within the Sacramento city limits before grading occurs. An erosion control professional and landscape architect, or a civil engineer

[9] U.S. Department of Agriculture. 2017. Natural Resources Conservation Service: Web Soil Survey. August 21, 2017. Available: https://websoilsurvey.nrcs.usda.gov/app/. Accessed April 22, 2019.

specializing in erosion control must design these plans and be present on-site when the plans are implemented during site preparation and construction activities.[10]

Adherence to 2035 General Plan Policy ER 1.1.7 and the City of Sacramento Grading Ordinance, in addition to implementation of the recommendations of project site geotechnical investigations required by 2035 General Plan Policy EC 1.1.2, would ensure that necessary erosion control measures are applied to the project area during preparation and construction activities. As a result, impacts associated with soil erosion would be less than significant, and this issue is not addressed further in this Draft EIR.

Unstable Geological Units and Expansive Soils

Landslides are not considered a substantial threat in the project area, given Sacramento's generally flat topography.

The project area is underlain primarily by alluvial clay or clay loam soils, which may be susceptible to subsidence. Subsidence occurs over large areas where substantial withdrawal of groundwater, oil, or natural gas occurs. However, no oil or natural gas production operations or extensive groundwater withdrawal activities are located in the project vicinity.

In addition to adherence to NPDES requirements, as discussed below under hydrology and water quality, under 2035 General Plan Policy EC 1.1.2, the City of Sacramento requires that geotechnical investigations of sites be completed before construction permits are issued, to determine the potential for expansive soils and subsidence at project sites. These evaluations must be completed by registered soil professionals, and, where applicable, measures to eliminate inappropriate soil conditions must be developed and applied. For this reason, impacts related to unstable geological units and expansive soils would be less than significant, and this issue is not addressed further in this Draft EIR.

Capability to Support Septic Tanks

The proposed project would not include the provision of wastewater service via septic tank or other alternative wastewater disposal systems. Rather, development under the proposed project would rely on the extension of connections to existing wastewater and service systems (addressed further in Section 4.11, *Utilities and Service Systems*). Therefore, impacts related to the suitability of soils to support septic tank systems would not occur, and this issue is not addressed further in this Draft EIR.

Paleontological Resources

The project area and vicinity are underlain primarily by alluvial soils, including Clear Lake clay, Jacktone clay, and Cosumnes silt loam.[11] There are no unique geological features in the project area. The site also occurs within the policy area of the Sacramento 2035 General Plan, which is not considered sensitive for paleontological resources, with a low likelihood of discovering such

[10] City of Sacramento. 2014. *City of Sacramento 2035 General Plan Update Draft Master Environmental Impact Report.* SCH #2012022006. August 2014. Page 4.5-6.

[11] U.S. Department of Agriculture. 2017. Natural Resources Conservation Service: Web Soil Survey. August 21, 2017. Available: https://websoilsurvey.nrcs.usda.gov/app/. Accessed April 22, 2019.

resources.[12] Despite this low likelihood, paleontological resources existing in subsurface fossil-bearing soils and formations may be damaged by ground-disturbing activities associated with construction of the proposed Innovation Park PUD, including the CNU Medical Center.

Pursuant to 2035 General Plan Policy HCR 2.1.16, the City of Sacramento requires that paleontological resources be identified, evaluated, and protected in compliance with accepted paleontological protocols. With adherence to Policy HCR 2.1.16, impacts on paleontological resources would be less than significant, and this issue is not addressed further in this Draft EIR.

Hydrology and Water Quality

Water Quality

Construction in the project area, including on the site of the proposed CNU Medical Center, would require earth-disturbing activities, such as grading, excavation, and trenching. These earth-disturbing activities would be temporary; however, they have the potential to result in soil erosion and sedimentation in runoff, which could degrade downstream surface waters, particularly during rainstorms.

Construction and implementation of the proposed project would likely involve using equipment and materials that contain pollutants common to urban runoff, including metals, oils and grease, pesticides, herbicides, nutrients, pet waste, and trash. The improper handling, storage, or disposal of these materials or the improper cleaning of associated construction machinery could result in accidental spills or discharges, which could degrade the quality of surface water and groundwater.

The proposed project would be required to comply with regulations to help reduce or eliminate the effects of construction activities on water quality. The National Pollutant Discharge Elimination System (NPDES) is the federal program that regulates point-source and nonpoint-source discharges to waters of the United States. NPDES permits are issued for point-source discharges and limit allowable concentrations of pollutants in discharges; NPDES stormwater regulations are intended to maintain the quality of stormwater discharged to receiving waters to the maximum extent practicable through the use of best management practices (BMPs). These BMPs may include both structural methods and nonstructural methods, such as educational, regulatory, and public policy measures.[13]

In addition to the NPDES General Construction Permit, the proposed project would be required to comply with Central Valley Regional Water Quality Control Board Resolution No. R5-2010-0017, which requires the preparation of a storm water quality improvement plan to manage stormwater discharges and reduce the concentration of pollutants in stormwater to the maximum extent practicable.[14] The proposed project would also be subject to the City of Sacramento Grading,

[12] City of Sacramento. 2014. *City of Sacramento 2035 General Plan Update Draft Master Environmental Impact Report.* SCH #2012022006. August 2014. Page 4.5-7.

[13] State Water Resources Control Board. 2019. Storm Water Program. Available: https://www.waterboards.ca.gov/water_issues/programs/stormwater/smallms4faq.shtml. Accessed May 30, 2019.

[14] Central Valley Regional Water Quality Control Board. 2010. *Resolution No. R5-2010-0017: Approval of the Storm Water Improvement Plan for the Cities of Citrus Heights, Elk Grove, Folsom, Galt, Rancho Cordova, Sacramento, and County of Sacramento Municipal Separate Storm Sewer System NPDES Permit.* Page 1.

Erosion, and Sediment Control Ordinance, including requirements for development projects in North and South Natomas, as delineated in Section 15.88.091 of the Sacramento City Code.[15]

Before the beginning of any construction activities in the project area, the proposed project would need to apply for coverage under the NPDES General Construction Permit, to develop a storm water pollution prevention plan (SWPPP), and to submit an erosion and sediment control plan for approval by the City of Sacramento. The proposed project would be implemented in compliance with the permit regulations and the BMPs outlined in the plans referenced above to minimize the potential for and effects of soil erosion, sedimentation, and spills of hazardous or toxic materials.

Complying with the NPDES General Construction Permit and the Grading, Erosion, and Sediment Control Ordinance and implementing SWPPP measures would prevent substantial adverse impacts on water quality as a result of the proposed project. Complying with these measures would also help ensure that the proposed project's water quality discharges would not violate Central Valley Regional Water Quality Control Board or City of Sacramento objectives. Therefore, the proposed project's impacts on water quality would be less than significant, and this issue is not discussed further in this Draft EIR.

CNU Medical Center

State law allows development within the 200-year floodplain if the following findings can be made: (1) flood management facilities provide an urban level of flood protection; (2) the City imposed conditions providing an urban level of flood protection; or (3) adequate progress has been made toward construction of a flood protection system to provide an urban level of flood protection for the project. State law additionally would allow development on property in an undetermined risk area if it has met the urban level of flood protection based on substantial evidence in the record. (Gov. Code sections 65865.5, 65962, and 66474.5.) An "urban level of flood protection" is defined as the level of protection necessary to withstand flooding that has a 1-in-200 chance of occurring in any given year using criteria consistent with, or developed by, the California Department of Water Resources. (Gov. Code section 65007(n).) The proposed CNU Medical Center—specifically the hospital building and the central utility plant—would be located in the 200-year flood zone.

Given the levee security improvements being undertaken by the ongoing Natomas Levee Improvement Program, the project site is designated A99, which applies to areas subject to inundation during a 100-year flood event, but which will ultimately be protected upon completion of an under-construction Federal flood protection system. No minimum flood elevations are required in the A99 zone.

In areas within FEMA A Flood Zones, the lowest floor (including the basement) must be at or above the design flood elevation (plus freeboard, if desired or required). The design flood elevation, as used in the model building codes, is defined as either the base flood elevation determined by the National Flood Insurance Program and shown on flood insurance rate maps, or

[15] City of Sacramento. 2019. "15.88.091 Requirements for Development Projects in North and South Natomas." Available: http://www.qcode.us/codes/sacramento/view.php?topic=15-15_88-i-15_88_091&frames=on. Accessed May 30, 2019.

the elevation of a design flood designated by the community, whichever is higher. The design flood elevation will always be at least as high as the base flood elevation.

The Office of Statewide Health Planning and Development (OSHPD), an arm of the Office of the State Architect, monitors the construction, renovation, and seismic safety of hospitals and skilled nursing facilities in California. Hospital construction plans must be submitted to the OSHPD for their review and approval.[16] Upon plan approval, the OSHPD would issue a construction permit and conduct onsite inspections during the construction of the facility.[17] Upon completion and compliance with all construction requirements, the OSHPD would issue a Certificate of Occupancy.

Seiche, Tsunami, or Mudflow

The relatively flat topography of the project area makes the potential for mudflow or mudslides highly unlikely. Additionally, the project area is not situated in an area susceptible to tsunamis or near extensive, deep, open bodies of water. Therefore, the proposed project is unlikely to expose individuals or structures to significant risk of inundation or flooding from mudflow, tsunami waves, or major seiche. Therefore, impacts related to mudflow, tsunami waves, or major seiche would not occur, and this issue is not addressed further in this Draft EIR.

Mineral Resources

The project area is located within a mapped mineral resource zone and is classified as MRZ-1.[18] This designation refers to areas where no significant mineral deposits exist, or where their presence is considered unlikely. The project area occurs within a mixed-use commercial, partially developed site where no past or present mines, quarries, producers, or processers of mineral resources are located. Moreover, no prospective or occurring mineral resources are identified in the project vicinity,[19] and the surrounding area is not viable for mineral resource extraction. Therefore, impacts on mineral resources would not occur, and this issue is not addressed further in this Draft EIR.

Wildfire

The project area is not located in or near a state responsibility area[20] or lands classified as very high fire hazard severity zones within local responsibility areas.[21] As a result, development in the project area would not expose people or structures to a significant risk of loss, injury, or death as a result of wildfires. Additionally, implementation of the proposed project would not impair or the emergency operation plans or emergency evacuation plans adopted by the City of Sacramento and Sacramento County. For these reasons, impacts related to wildfire would not occur, and this issue is not addressed further in this Draft EIR.

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16 Office of Statewide Health Planning and Development (OSHPD), 2021. *Plan Review Processes & Goals*.

17 Office of Statewide Health Planning and Development (OSHPD), 2021. *Building Permits & Construction Observation*.

18 Dupras, D. 1999. *Mineral Land Classification Map of PCC-Grad Aggregate Resources in Sacramento County.* Plate 3.

19 U.S. Geological Survey. 2005, Mineral Resources Data System. Available: https://mrdata.usgs.gov/mrds/map-us.html#home. Accessed April 22, 2019.

20 California Department of Forestry and Fire Protection. 2007. Fire Hazard Severity Zones in SRA, Sacramento County. November 7, 2007.

21 California Department of Forestry and Fire Protection. 2007. Very High Fire Hazard Severity Zones in LRA, Sacramento County. July 30, 2008.

4.1 Aesthetics, Light, and Glare

This section describes the existing visual environment in and around the Innovation Park PUD area (referred to in this section as the *project area*), including the site of the proposed CNU Medical Center. It evaluates changes to visual conditions that could result from implementation of the proposed Innovation Park PUD, including the CNU Medical Center (together referred to herein as the *proposed project*).

A Notice of Preparation (NOP) for this EIR was circulated for public review from March 1 to April 2, 2019. No comments pertaining to aesthetics, light, and glare were submitted in response to the NOP.

4.1.1 Environmental Setting

The city of Sacramento is characterized by a downtown urban core surrounded by suburbs and agricultural land. To the east, on clear days, the foothills of the Sierra Nevada provide a backdrop for the city's visual setting. The city is located at the confluence of the Sacramento and American Rivers. These river corridors create two of Sacramento's primary natural scenic resources. The Sacramento River flows north to south and serves as the western boundary for much of the city. The American River flows westward on the northern boundary of the Central City and meets the Sacramento River just west of Interstate 5 (I-5).

Sacramento's downtown skyline is visible from nearby locations, including from southbound I-5 in the North Natomas area in the northwestern part of the city, and from miles around the city. High-rise buildings are the distinctive features of the skyline.

The Natomas Basin contains some of the largest portions of undeveloped land in the area, but has also been developed with residential neighborhoods interspersed with retail centers, commercial, and office uses in the North Natomas area of the city. Development in North Natomas has largely occurred within the last 25 years and, as a result, is somewhat uniform in character. The residential subdivisions consist primarily of modern two-story homes that maximize lot coverage and minimize landscaping. Six- to 10-foot-high concrete walls or wood fences are visible from the main roadways, and many areas are gated. In the residential neighborhoods, most main roadways are six to eight lanes wide with streetlights. The retail centers generally consist of large concrete buildings located either adjacent to the street frontage or set back with large, sparsely landscaped surface parking areas. These retail centers also generally have a large amount of artificial lighting, both in the parking lots and on the storefronts and signs. As with most areas within the city, development in North Natomas includes artificial light sources that provide ambient nighttime light in the vicinity. Headlights from motor vehicles contribute to the ambient light conditions.

None of the freeway segments within the city, including I-5 as it passes through North Natomas, have been identified by the California Department of Transportation (Caltrans) as scenic.[1]

[1] California Department of Transportation. 2021. Scenic Highways: California Scenic Highways. Available: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed July 27, 2021.

Innovation Park PUD Area and Vicinity

Figure 4.1-1 provides an aerial view of the project area and the locations of photographic views included in subsequent figures. **Figures 4.1-2** through **4.1-6** present photographs of the project area.

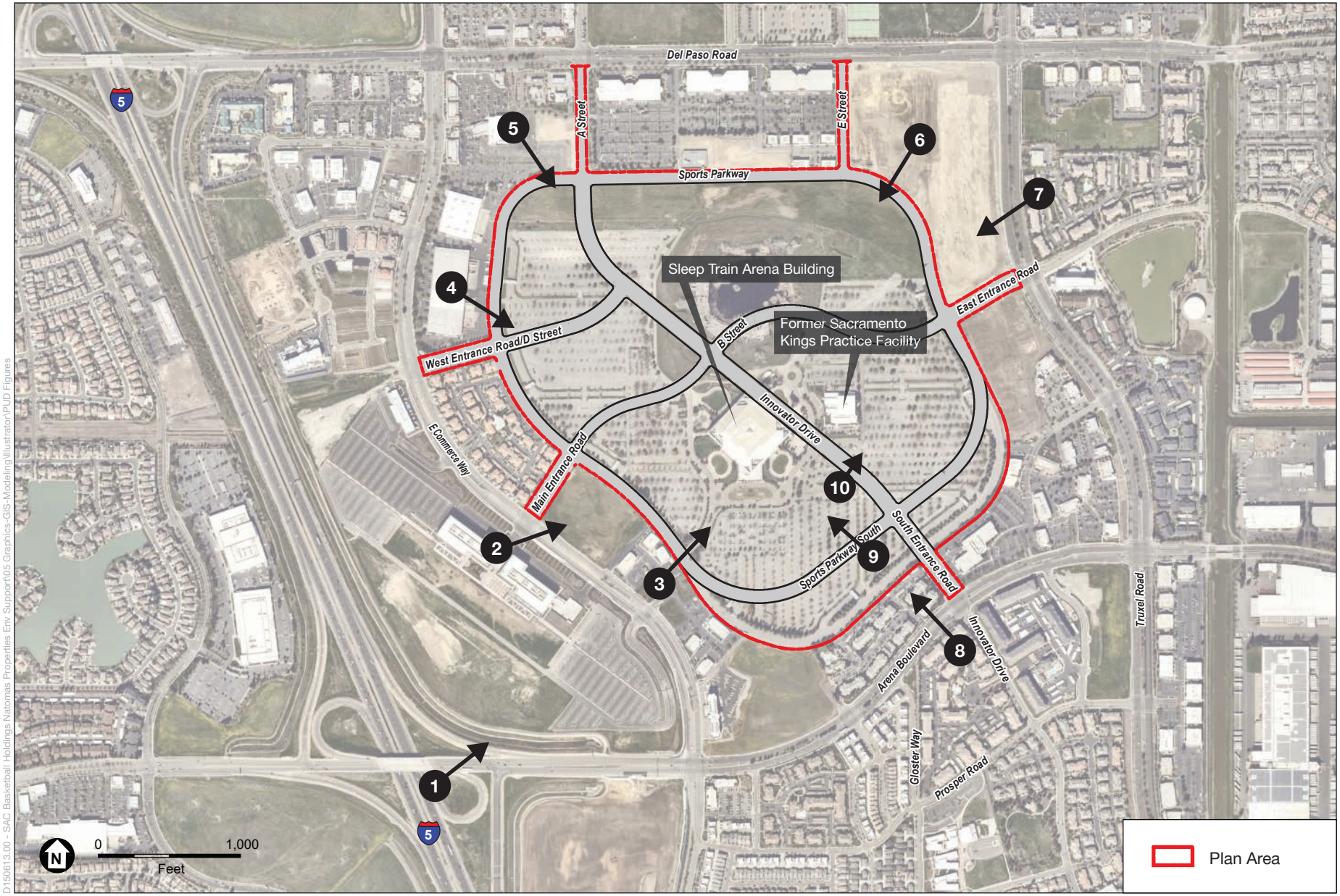
The project area is a 183.8-acre site located within the North Natomas community. The site includes the Sleep Train Arena building and former Sacramento Kings practice facility. These buildings are no longer used for their primary purpose, as Kings operations now take place at the Golden 1 Center and adjacent practice facility in Downtown Sacramento.

The Sleep Train Arena building is a large, rectangular postmodern structure located in the central portion of the project area. The approximately 100-foot-tall structure is mostly tan brick with some glass accents. On the upper portion of each of the building's four façades is the arena name in large white letters, along with the purple Sleep Train locomotive logo. Because of its height and location within a sprawling flat landscape devoid of any other structures that meet or exceed its height and size, the arena building is a prominent regional landmark visible from several miles away from multiple locations, including both northbound and southbound I-5 and local roadways such as Arena Boulevard, Del Paso Road, Truxel Road, and East Commerce Way. The considerably smaller, 38,500-square-foot former Sacramento Kings practice facility is a multi-level, approximately 30-foot-tall rectangular building with a red and white brick exterior and glass elements. The practice facility building is also located in the central portion of the site, approximately 300 feet east of the arena building.

The majority of the southern portion of the project area is a paved parking lot and includes the private Sports Parkway, which surrounds the majority of the site. The parking lots, interior roads, and grounds surrounding the arena building include numerous landscaped islands, mature trees, and light poles topped with light fixtures and blue signs with white letters and numbers that identify parking lot sections. Because the arena has been non-operational since 2016, and the property has not been closely maintained for operational and aesthetic purposes, the arena and surrounding parking lots and grounds show substantial visible signs of dilapidation and disrepair. The heavily cracked, weed-laden parking surface and substantially overgrown, unmaintained landscaped areas surrounding the arena building visually underscore the overall aesthetic deterioration of the long-dormant arena facility.

The northern portion of the project area is undeveloped and includes a combination of large vegetated areas and large patches of bare earth. This area of the site contains the foundation and excavated area for a partially constructed baseball field and stadium. In the years since the partial construction, this area has filled with water, forming a series of wetlands and supporting the growth of scattered vegetation, which blend visually with the larger vegetated and undeveloped northern portion of the project area.

Adjacent uses include commercial, office, multi-family residential, and vacant land slated for future urban development. Commercial, office, retail, and multi-family residential buildings in the vicinity are predominantly modern low- and mid-rise structures of various heights, colors, and contemporary designs, with a visual character typical of a modern mixed-use community. Views of surrounding uses from within the southern half of the project area are limited because of the



SOURCE: Google Earth Pro, 2021; ESA, 2021

Innovation Park PUD

Figure 4.1-1
Photo Location Map

ESA

Viewpoint 1: View toward project area and proposed CNU Medical Center site from Arena Boulevard and Interstate 5. Sleep Train Arena visible in the central portion of the project area. View facing northeast.

Viewpoint 2: View of project area, including proposed CNU Medical Center site, from East Commerce Way and Main Entrance Road. Sleep Train Arena visible in the central portion of the project area beyond row of mature trees. View facing northeast.

SOURCE: ESA, 2021

Innovation Park PUD

Figure 4.1-2
Viewpoints 1 and 2

ESA

Viewpoint 3: View of Sleep Train Arena from Sports Parkway within project area. View facing northeast.

Viewpoint 4: View of project area from Sports Parkway and West Entrance Road. Sleep Train Arena in background. View facing southeast.

SOURCE: ESA, 2021

Innovation Park PUD

Figure 4.1-3
Viewpoints 3 and 4

ESA

Viewpoint 5: View of project area from northwestern corner of project area near Del Paso Road and Sports Parkway. View facing southeast.

Viewpoint 6: View of project area from northeastern corner of project area near Del Paso Road and Five Star Way. View facing southwest.

SOURCE: ESA, 2021

Innovation Park PUD

Figure 4.1-4
Viewpoints 5 and 6

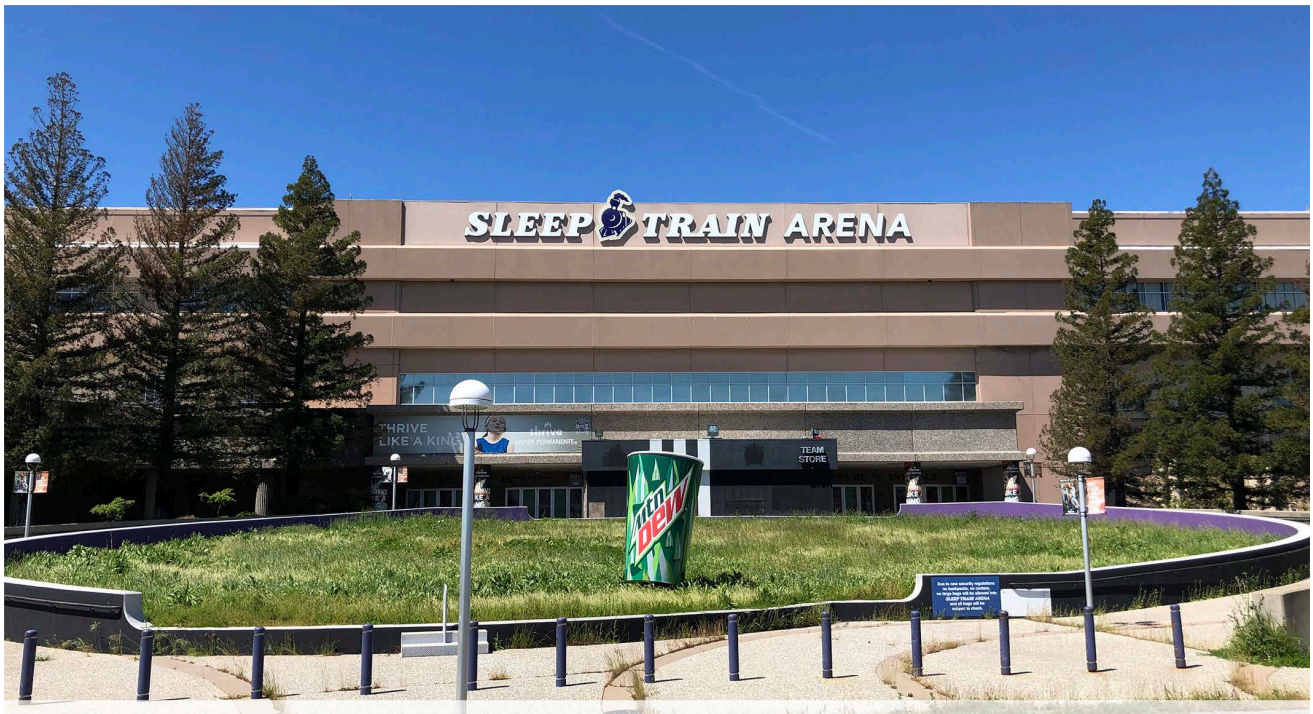
Viewpoint 7: View of project area from Truxel Road near Terracina Drive. View facing southwest.

Viewpoint 8: View of project area, with the proposed CNU Medical Center site in the foreground, from near the southeastern entrance and Sports Parkway. View facing northwest.

SOURCE: ESA, 2021

Innovation Park PUD

Figure 4.1-5
Viewpoints 7 and 8



Viewpoint 9: Southeastern façade of Sleep Train Arena building from within the proposed CNU Medical Center site. View facing northwest.

Viewpoint 10: Former Sacramento Kings practice facility. View facing northeast.

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SOURCE: ESA, 2021

Innovation Park PUD

Figure 4.1-6
Viewpoints 9 and 10

ESA

flatness of the terrain on and near the site and the stands of mature trees that flank the site's western, southern, and eastern perimeter areas. Views to the north from within the northern portion of the project area are more open: concrete and glass commercial buildings and multi-family residential buildings to the west along East Commerce Way, concrete and glass low-rise office buildings immediately to the north along Del Paso Road, and undeveloped land and modern multi-family residential and retail buildings to the northeast along Del Paso Road and Truxel Road.

Because of the flatness of the terrain in the project area and the presence of numerous mature trees that flank the western, southern, and eastern perimeter areas, publicly accessible views onto the site are limited. Views of the project area by motorists and bicyclists traveling on East Commerce Way, Arena Boulevard, and Truxel Road are characterized by intermittent views into the site's interior, which consist of the aforementioned parking lots, landscaped and vegetated areas, and the arena building. Publicly accessible views of the southern half of the project area from the west, south, and east are largely obscured by trees, intervening residential and commercial buildings, or concrete parking lot entry gates on the western, southern, and eastern perimeter areas of the arena property. Views of the project area from commercial and office uses along Del Paso Road north of the site are more open and less obscured by intervening trees and structures than views from the western, southern, and eastern perimeter areas. These views from the north are characterized by the largely flat expanses of vegetated and non-vegetated land and the northern portion of the west parking lot that compose much of the northern portion of the site. Because of its height and overall size and bulk, the upper portion of the Sleep Train Arena building is the predominant visual feature in numerous close-range and distant external views of the project area from multiple vantage points.

CNU Medical Center Site and Vicinity

The proposed CNU Medical Center would be located on approximately 35 acres in the southwestern portion of the project area (see Figure 4.1-1 and Viewpoints 1, 2, 3, 8, and 9 in the subsequent figures included in this section). The majority of the southwestern portion of the site consists of a paved parking lot and the private Sports Parkway, which surrounds the majority of the project area. The Sleep Train Arena building is located in the northern portion of the proposed CNU Medical Center site.

Views from within the site of the proposed CNU Medical Center include the Sleep Train Arena building and former Sacramento Kings practice facility within and north of the site, and the aforementioned parking lots, interior roads, mature trees, light poles, and grounds south of the arena building within the site.

Existing uses adjacent to the proposed CNU Medical Center site include developed and undeveloped areas of the Sleep Train Arena site to the north; multi-family residential development to the west; medical, office, and commercial uses and vacant land to the southwest; and multi-family residential, commercial, retail, and vacant land uses to the south and southeast.

Commercial, office, and multi-family residential buildings in the vicinity of the proposed CNU Medical Center site are predominantly modern, low- and mid-rise structures of various heights,

colors, and contemporary designs, with a visual character typical of a modern mixed-use community.

Short-range views of surrounding uses from within the site of the proposed CNU Medical Center, as well as long-range views of the surrounding region, are limited because of the flatness of the terrain on the site and vicinity and the stands of mature trees that flank the site's western, southern, and eastern perimeter areas.

Light and Glare

Introduction to Light and Glare

Nighttime lighting is necessary to provide and maintain safe, secure, and attractive environments; however, these lights have the potential to produce spillover light and glare, and if designed incorrectly, could be considered unattractive. Although nighttime light is a common feature of urban areas, spillover light can adversely affect light-sensitive uses, such as residential units at nighttime.

Ambient light levels or illumination is measured in foot-candles. **Table 4.1-1** lists typical ambient illumination levels in foot-candles for exterior and interior lighting. *Horizontal foot-candles* measure light illumination on a horizontal surface, such as a sidewalk or parking lot; *vertical foot-candles* measure light illumination on a vertical surface, such as a wall.

TABLE 4.1-1
TYPICAL ILLUMINATION LEVELS, IN FOOT-CANDLES

Light Source	Foot-Candles
Starlight	0.0002
Moonlight	0.02
Street lighting	0.6 to 1.6
Office lighting	70 to 150
Direct sunlight	6,000 to 10,000

SOURCE: City of Sacramento. 2014. *Sacramento 2035 General Plan Background Report*. Public Review Draft. August 2014. Table 6-13, p. 6-122.

Glare results when a light source directly in the field of vision is brighter than the eye can comfortably accept. Squinting or turning away from a light source is an indication of glare. The presence of a bright light in an otherwise dark setting may be distracting or annoying (*discomfort glare*) or may diminish the ability to see other objects in the darkened environment (*disability glare*). Reflective glare, such as the reflected view of the sun from a window or mirrored surface, can be distracting during the day.

Existing Light and Glare Conditions

Sacramento is largely built out, and a large amount of artificial light and glare from urban uses in the city already exists, including light and glare from urban uses in the North Natomas area of the city.

Existing sources of nighttime light in the project vicinity are mostly commercial, office, medical, retail, and residential uses that surround the project area. Nighttime security lighting at the arena building and surrounding grounds in the project area, including the site of the proposed CNU Medical Center, provides a comparatively minimal contribution to existing ambient levels of nighttime lighting in the vicinity.

Sources of reflective daytime glare in the project vicinity are minimal, as most of the buildings and structures are clad primarily in non-reflective surfaces such as stone, stucco, and non-mirrored glass. However, automobiles traveling along I-5 and local roadways (e.g., Del Paso Road, Truxel Road, Arena Boulevard, East Commerce Way) contribute to nighttime sources of light and glare in the project vicinity.

4.1.2 Regulatory Setting

Federal

Federal Aviation Administration

Federal Aviation Administration (FAA) Advisory Circular 70/7460-1L, *Obstruction Marking and Lighting*, sets forth standards for marking and lighting obstructions that have been deemed to be a hazard to air navigation.[2] The advisory circular identifies requirements that are applicable to the proposed 14-story (approximately 280-foot-tall) hospital building within the proposed CNU Medical Center. The requirements are as follows:

- Types of lighting to be used on the structure: aviation red obstruction lights (flashing and/or steady burn) during nighttime and medium-intensity flashing white obstruction lights during daytime and twilight.
- Provision of obstruction lighting during construction, with two or more lights placed on the structure at each level at which permanent obstruction lighting would be recommended. Construction equipment lighting should be provided according to the standards that apply to permanent structures.
- Control device for the lighting system that changes the lights' intensity when ambient light conditions change (twilight to night and night to day).
- Structure markings using approved colors (international aviation orange, white, and yellow).

Lighting for hospital heliports, including the proposed rooftop helicopter landing site (helistop) for the hospital building within the proposed CNU Medical Center, is regulated under FAA Advisory Circular 150/5390-2C, *Heliport Design*.[3] Chapter 4 (Hospital Heliports), Section 415 (Heliport Lighting), of Advisory Circular 150/5390-2C provides standards for perimeter lighting, taxiways, and beacons for hospital heliports. These standards include the use of green lighting to identify the touchdown and liftoff area, final approach and takeoff area, and flight path alignments. The standards require that beacons for heliports (including helistops similar to those

[2] Federal Aviation Administration. 2018. Advisory Circular 70/7460-1L, *Obstruction Marking and Lighting*, initiated by AJV-15, Change 2. August 17, 2018.

[3] Federal Aviation Administration. 2012. Advisory Circular 150/5390-2C, *Heliport Design*, Initiated by AAS-100. May 4, 2012.

proposed for the CNU Medical Center's hospital facility) use a white, green, or yellow light that flashes 30–45 times per minute.

State

California Scenic Highway Program

California's Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. The State Scenic Highway System includes a list of highways that either are eligible for designation as scenic highways or have been so designated. These highways are identified in Section 263 of the Streets and Highways Code.

A highway may be designated scenic depending on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. When a city or county nominates an eligible scenic highway for official designation, it must identify and define the scenic corridor of the highway. A *scenic corridor* is the land generally adjacent to and visible from the highway. A scenic corridor is identified using a motorist's line of vision. A reasonable boundary is selected when the view extends to the distant horizon. The corridor protection program does not preclude development, but seeks to encourage quality development that does not degrade the scenic value of the corridor. The jurisdictional boundaries of the nominating agency are also considered. The agency must also adopt ordinances to preserve the scenic quality of the corridor or document the regulations that already exist in various portions of local codes. These ordinances make up the scenic corridor protection program.

County roads can also become part of the Scenic Highway System. To receive official designation, the county must follow the same process required for official designation of state scenic highways.

According to the Caltrans list of designated scenic highways under the California Scenic Highway Program, no highway segments within the city of Sacramento are designated scenic. State Route (SR) 160 from the Contra Costa County line to the southern limit of the city of Sacramento is the only officially designated state scenic highway near the city of Sacramento.[4] The project area is not visible from this portion of SR 160.

Local

Sacramento 2035 General Plan

The 2035 General Plan includes the following goals and policies that are relevant to the proposed Innovation Park PUD and the CNU Medical Center project.

[4] California Department of Transportation. 2021. Scenic Highways: California Scenic Highways. Available: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed July 27, 2021.

Land Use and Urban Design Element

Goal LU 2.4: City of Distinctive and Memorable Places. Promote community design that produces a distinctive, high-quality built environment whose forms and character reflect Sacramento's unique historic, environmental, and architectural context, and create memorable places that enrich community life.

Policy LU 2.4.1: Unique Sense of Place. The City shall promote quality site, architectural and landscape design that incorporates those qualities and characteristics that make Sacramento desirable and memorable including: walkable blocks, distinctive parks and open spaces, tree-lined streets, and varied architectural styles.

Policy LU 2.4.2: Responsiveness to Context. The City shall require building design that respects and responds to the local context, including use of local materials where feasible, responsiveness to Sacramento's climate, and consideration of cultural and historic context of Sacramento's neighborhoods and centers.

Goal LU 2.7: City Form and Structure. Require excellence in the design of the city's form and structure through development standards and clear design direction.

Policy LU 2.7.3: Transitions in Scale. The City shall require that the scale and massing of new development in higher-density centers and corridors provide appropriate transitions in building height and bulk that are sensitive to the physical and visual character of adjoining neighborhoods that have lower development intensities and building heights.

Policy LU 2.7.7: Buildings that Engage the Street. The City shall require buildings to be oriented to and actively engage and complete the public realm through such features as building orientation, build-to and setback lines, façade articulation, ground-floor transparency, and location of parking.

Goal LU 4.4: Urban Neighborhoods. Promote vibrant, high-density, mixed-use urban neighborhoods with convenient access to employment, shopping, entertainment, transit, civic uses (e.g., school, park, place of assembly, library, or community center), and community-supportive facilities and services.

Policy LU 4.4.1: Well-Defined Street Forms. The City shall require that new buildings in urban neighborhoods maintain a consistent setback from the public right-of-way in order to create a well-defined public sidewalk and street.

Policy LU 4.4.2: Building Orientation. In buildings with nonresidential uses at street level, the City shall require that building facades and entrances directly face the adjoining street frontage and include a high proportion of transparent windows facing the street.

Policy LU 4.4.3: Building Design. The City shall encourage sensitive design and site planning in urban neighborhoods that mitigates the scale of larger buildings through careful use of building massing, setbacks, façade articulation, fenestration, varied parapets and roof planes, and pedestrian-scaled architectural details.

Environmental Resources Element

Policy ER 7.1.3: Lighting. The City shall minimize obtrusive light by limiting outdoor lighting that is misdirected, excessive, or unnecessary, and requiring light for

development to be directed downward to minimize spill-over onto adjacent properties and reduce vertical glare.

Policy ER 7.1.4: Reflective Glass. The City shall prohibit new development from (1) using reflective glass that exceeds 50 percent of any building surface and on the bottom three floors, (2) using mirrored glass, (3) using black glass that exceeds 25 percent of any surface of a building, (4) using metal building materials that exceed 50 percent of any street-facing surface of a primarily residential building, and (5) using exposed concrete that exceeds 50 percent of any building.

North Natomas Community Plan

The City of Sacramento currently has 10 adopted community plans that include policies and land use diagrams that pertain to the respective community plan areas. The project area is located within the North Natomas Community Plan (NNCP) area bounded by Elkhorn Boulevard on the north, Interstate 80 on the south, the Natomas East Main Drainage Canal on the east, and the West Drainage Canal, Fisherman's Lake, and State Route 99 on the west. Community plans are part of the 2035 General Plan and are intended to supplement citywide policies based on conditions or issues unique to the community plan area. The following policy from the NNCP is applicable to the proposed project.

Land Use and Urban Design

Policy NN.LU 1.1: PUD Designation Required. All development in the plan area shall be designated as a Planned Unit Development (PUD) and shall include Schematic Plan and Development Guidelines for the PUD.

City of Sacramento Planning and Development Code (Title 17)

The City of Sacramento's Planning and Development Code (Sacramento City Code Title 17) is intended "[t]o implement the city's general plan through the adoption and administration of zoning laws, ordinances, rules, and regulations" (Section 17.100.010(B)). To achieve this outcome, the Planning and Development Code regulates all of the following:

- The use of land, buildings, or other structures.
- The location, height, and size of buildings or structures, yards, courts, and other open spaces, the amount of building coverage permitted in each zone, and population density.
- The physical characteristics of buildings, structures, and site development, including the location, height, and size of buildings and structures; yards, courts, and other open spaces; lot coverage; land use intensity through regulation of residential density and floor area ratios; and architectural and site design.

As part of these provisions, PUDs are required to establish their own site-specific development guidelines (see Chapter 3, *Land Use, Population, Employment, and Housing*, for additional details).

4.1.3 Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, impacts on aesthetics may be considered significant if implementation of the proposed project would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and surroundings or conflict with applicable zoning and other regulations governing scenic quality; or
- Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area.
  - *Glare.* Glare is considered significant if it would be cast in such a way as to cause public hazard or annoyance for a sustained period of time.
  - *Light*. Light is considered significant if it would be cast onto oncoming traffic or residential uses.

Issues Not Discussed in Impacts

Visually sensitive public locations include viewpoints where a change to the visibility of an important scenic resource, or a visual change to the resource itself, would affect the general public. These locations include public plazas, trails, parks, parkways, or designated, publicly available and important scenic corridors. No designated scenic vistas or scenic corridors are present within or visible from the vicinity of the project area. Consequently, the proposed project would not have an impact on a scenic vista. As described in Section 4.1.2, *Regulatory Setting*, above, none of the freeway segments in the project vicinity have been designated as scenic. Thus, the proposed project would not impact scenic resources in the vicinity of a scenic highway. For these reasons, the first and second significance criteria listed above are not addressed further in this section of the EIR.

Methodology and Assumptions

The analysis of potential impacts related to aesthetics involved qualitatively comparing the existing built and natural environment to the future built and natural environment and evaluating the visual changes that would result from implementation of the proposed project. Potential impacts were evaluated within the context of existing conditions based on analyses of photographs, site reconnaissance, and project data. Key view corridors were examined, and existing views to and from the project site were compared to those that would be expected to occur in the future with project implementation. Architectural renderings of the proposed hospital building (see Chapter 2, *Project Description*), which would be the most visually prominent structure proposed as part of the CNU Medical Center, were also examined and referenced in the

visual analysis. In addition, anticipated visual changes were evaluated in the context of adopted City policies and regulations.

Impacts and Mitigation Measures

Impact 4.1-1: Development allowed under the proposed project could substantially degrade the existing visual character or quality of public views of the site and its surroundings, or conflict with applicable zoning and other regulations governing scenic quality.

Innovation Park PUD

The 2035 General Plan provides guidance that reflects the diverse nature of the built environment in Sacramento and the complex nature of urban design in the community. Policies such as LU 2.4.1 and LU 2.4.2 reflect Sacramento's traditional character and place a priority on design that "respects and responds to the local context." At the same time, policies such as LU 2.7.3 and LU 2.7.7 require excellence in the design of the city's form and structure through development standards and clear design direction.

Changes in the visual character or quality of a site affect each individual differently, and thus to some extent are based on subjective and individual perspectives. Implementing the proposed project would result in gradual physical changes within the project area. Such changes would include the introduction of new residential, commercial, retail, medical, institutional, open space, and other uses; the addition of associated roadway and utility infrastructure and landscaping; and an overall increase in the amount and intensity of physical development in the project area. These physical changes would alter the existing visual character of the project area, which is currently occupied by a comparatively minimal number of structures, including the Sleep Train Arena building and former Sacramento Kings practice facility, paved parking lots, and undeveloped areas.

Although the proposed Innovation Park PUD allows for increased physical development in the project area, the physical development would have to be consistent with the applicable policies of the Sacramento 2035 General Plan, including policies designed to ensure that new development is visually compatible with and complementary to its site and surroundings. The 2035 General Plan includes the following specific requirements:

- Policy LU 2.4.2 directs the City to require building design that respects and responds to the local context, including through the use of local materials where feasible, responsiveness to Sacramento's climate, and consideration of the cultural and historic context of Sacramento's neighborhoods and centers.
- Policy LU 2.7.3 requires that the scale and massing of new development provide appropriate transitions in building height and bulk that are sensitive to the physical and visual character of adjoining neighborhoods that have lower development intensities and building heights.
- Policy LU 2.7.7 requires that buildings be oriented to and actively engage and complete the public realm through such features as building orientation, setbacks, façade articulation, ground-floor transparency, and location of parking.
- Policy LU 4.4.3 encourages sensitive design and site planning in urban neighborhoods that mitigates the scale of larger buildings through the careful use of building massing, setbacks,

façade articulation, fenestration, varied parapets and roof planes, and pedestrian-scaled architectural details.

- Policy ER 7.1.4 directs the City to ensure that new development does not significantly impact Sacramento's natural and urban landscapes.

In addition, NNCP Policy NN.LU 1.1 requires that all development in the project area include a schematic plan and development guidelines for the proposed project, to demonstrate that new development in the project area would be of a high-quality design and would be visually compatible with and complementary to its site and surroundings. As described in PUD Chapter 4, *Community Character and Design*, the overall vision and elements of Innovation Park are informed by the hierarchy of City of Sacramento planning documents, including the General Plan, the Citywide Design Guidelines, and the NNCP. Proposed PUD Policy 4.2.1, *Adherence to City Policies*, identifies that the City has several policies in place to guide urban development, including land use and design, and the PUD seeks to implement relevant City Policies guiding urban development unless noted otherwise.

Finally, as noted previously, all development within the Sacramento city limits is subject to site plan and design review to ensure that the development is consistent with applicable plans and design guidelines and compatible with surrounding development. Site plan and design review would ensure that development in the project area is consistent with applicable plans and design guidelines, is of high quality, and is compatible with surrounding development, thus avoiding adverse impacts on visual character within the context of a built-up urban setting.

In summary, new physical development under the proposed Innovation Park PUD would be required to comply with applicable plans, policies, and guidelines designed to ensure that new development is visually compatible with and complementary to its site and surroundings. Consequently, the proposed project would not conflict with applicable zoning and other regulations governing scenic quality and the impact of the proposed project on visual character and quality would be **less than significant**.

CNU Medical Center

The proposed CNU Medical Center would be located on approximately 35 acres in the southwest portion of the project area (Figure 4.1-1).

As detailed in Chapter 2, *Project Description*, the CNU Medical Center is anticipated to build out in three phases. At buildout, the CNU Medical Center campus would consist of 18 buildings, divided into four distinct zones. Construction of all three phases of the proposed CNU Medical Center is assumed to be completed within a period of 10 years. The timing of construction at the CNU Medical Center site, particularly Phases 2 and 3, ultimately would be based on economic and market conditions. Accordingly, the progression of visual change on the site would be long-term and incremental.

Figures 2-21 through 2-27 in Chapter 2, *Project Description*, show the facilities proposed under Phase 1, including construction of the 14 story hospital building in the northwest corner of the CNU Medical Center site, as well as future phases of development. Because the hospital building

would be located within the 200-year floodplain, the hospital functions of the building would be elevated approximately 18 to 20 feet above the existing grade to prevent critical space from being flooded during a 200-year flood event.

At buildout, the proposed CNU Medical Center would include the aforementioned hospital building and associated office, educational, residential, and other uses. Owing primarily to its size and height, the hospital building would be the most visually prominent feature of the proposed CNU Medical Center. The total height of the hospital would include 14 stories, including a ground-level medical clinic level, 12 stories for hospital functions and a mechanical level. The highest point of the building would be the central tower crown approximately 280-feet above ground level. The proposed hospital building would be the tallest building in North Natomas and would be visually prominent from freeways and other distant points.

Figure 2-27 in Chapter 2, *Project Description*, provides an architectural rendering of the hospital building. The proposed structure would consist of a multitude of building materials, including cement, stucco, stone, and glass. The hospital building's entry would be visually accentuated through the use of glass and metallic features. The overall architectural design of the hospital building would incorporate the use of neutral tones in varying shades and material types. The hospital building towers would incorporate a combination of window styles, shades, and exterior finishes aimed to provide visual interest and to avoid a monotone appearance of the building façade. The additional buildings that would compose the completed CNU Medical Center have been programed, but not yet designed, although they are anticipated to use materials and exterior design elements consistent and compatible with those used for the hospital.

Landscape improvements during Phase 1 would include the installation of hardscape and softscape features as shown in Figure 2-29. Figure 2-29 shows the proposed landscape improvements at buildout of the CNU Medical Center. Monuments with directional signals, flowering shrubs, and accent lighting would be installed at the main entrance point to the CNU Medical Center site. Pedestrian-scale lighting, consisting of pole-mounted and ground light fixtures and columnar trees, would be provided along the campus arrival spine. Surface parking lots would be 50 percent shaded with canopy shade trees. Building gateways would include seating elements, wayfinding signage, pedestrian-scale lighting, and flowering trees and shrubs. The central area of the CNU Medical Center would include an amphitheater with a canopy-covered stage, formal and casual seating, lawn terraces with casual seating, low-scale lighting, rainwater gardens, a water feature, and a promenade designed for emergency vehicle access with wayfinding signage and pedestrian-scale lighting. The campus edge would include evergreen trees and shrubs for screening.

Implementing the proposed CNU Medical Center would result in a substantial visual change compared to existing conditions on the project site. The existing arena building, paved parking lot, landscaped islands, mature trees, and light poles would be replaced by an approximately 35-acre modern medical campus that would include a 14-story hospital building and associated buildings and structures ranging from one to seven stories in height.

As applicable to all new development in the project area, physical development of the CNU Medical Center would have to be consistent with the applicable policies of the Sacramento 2035 General Plan, including policies designed to ensure that new development is visually compatible with and complementary to its site and surroundings (see the preceding analysis of the Innovation Park PUD as a whole). As discussed previously, all development within the Sacramento city limits is subject to a site plan and design review to ensure that the development is consistent with applicable plans and design guidelines and is compatible with surrounding development, and CNU has requested site plan and design review for Phase 1A as one of the current proposed entitlements. Future phases would also be subject to site plan and design review to ensure that all development within the CNU Medical Center site is consistent with applicable plans and design guidelines, is of high quality, and is compatible with surrounding development, thus avoiding adverse impacts on visual character within the context of a built-up urban setting. Consequently, the proposed CNU Medical Center would not conflict with applicable zoning or other regulations governing scenic quality and the impact of the proposed CNU Medical Center on visual character and quality would be **less than significant**.

Mitigation Measure

None required.

Impact 4.1-2: Development allowed under the proposed project would create a new source of substantial light.

Innovation Park PUD

Construction

Construction in the project area would take place during daylight hours, within a standard daily construction time window. Nighttime construction activities are not anticipated. Lighting on the construction site would be for security purposes only and would be focused within the project area so as to not be directly visible to nearby sensitive receptors residing in nearby housing units. Therefore, impacts related to construction lighting would be **less than significant**.

Operation

A detailed lighting and signage plan for the proposed project has not been provided to the City. Development allowed under the proposed Innovation Park PUD would include illuminated signage and a variety of lighting types: street lighting, sidewalk lighting, parking area lighting, building perimeter lighting, emergency lighting, outdoor security lighting, landscape lighting, and interior lighting that would be visible from outside of buildings. Building lighting and signage could result in brightly illuminated surfaces that could be directly visible from adjacent uses or other affected light-sensitive uses (e.g., pedestrians, vehicles) and could result in substantial changes to existing artificial light conditions or interfere with off-site activities. This increased visibility could disturb or distract individuals observing the area from homes, offices, or automobiles or walking on streets in the project area.

The Sacramento 2035 General Plan includes Policy ER 7.1.3, which requires projects to minimize obtrusive light by limiting outdoor lighting that is misdirected, excessive, or unnecessary, and requiring that light for development be directed downward to minimize spillover onto adjacent properties and reduce vertical glare. In addition, the proposed Innovation Park PUD includes lighting guidelines aimed to ensure high-quality, energy-efficient lighting for all development in the project area to create a cohesive appearance and to avoid light pollution, glare, and light trespass.

Complying with General Plan Policy ER 7.1.3, which requires projects to minimize lighting that is misdirected, excessive, or unnecessary, and implementing the guidelines for lighting, signage, and graphics in the proposed Innovation Park PUD would ensure that the proposed project would not create a new source of substantial light. However, a detailed lighting and signage plan for the proposed project has not yet been completed. Therefore, it is possible that lighting used for development allowed under the proposed Innovation Park PUD could significantly affect the ambient nighttime light in the North Natomas area, including light spillover to nearby uses. This impact would be **significant**.

CNU Medical Center

The proposed CNU Medical Center would include illuminated signage and a variety of lighting types: street lighting, sidewalk lighting, parking area lighting, building perimeter lighting, emergency lighting, outdoor security lighting, landscape lighting, and interior lighting that would be visible from outside of buildings. The proposed hospital building would create a new nighttime light source from interior lighting that would be visually prominent from adjoining public views. The proposed hospital building would include a tower approximately 280 feet above ground level, which may remain illuminated 24 hours per day. The proposed hospital would also have special-colored lighting for the proposed rooftop helistop and potential beacon lighting consistent with the requirements of FAA Advisory Circular 150/5390-2C, *Heliport Design*, as well as air navigation lighting consistent with the requirements of FAA Advisory Circular 70/7460-1L, *Obstruction Marking and Lighting*.

Complying with General Plan Policy ER 7.1.3, which requires projects to minimize lighting that is misdirected, excessive, or unnecessary, and implementing the guidelines for lighting, signage, and graphics in the proposed Innovation Park PUD would ensure that the proposed CNU Medical Center would not create a new source of substantial light. However, a detailed lighting and signage plan for the proposed CNU Medical Center has not yet been completed. Therefore, it is possible that lighting used by the proposed CNU Medical Center could significantly affect levels of ambient nighttime light in the North Natomas area, including light spillover to nearby uses. This impact would be **significant**.

Mitigation Measures

Mitigation Measure 4.1-2 (PUD, CNU): Implement Signage and Lighting Design Plan.

For each individual development project proposed within the project area, a signage and lighting design plan will be implemented, as approved in the City's Site Plan and Design Review process, to ensure that all outdoor lighting within the project area is designed to minimize lighting that is misdirected, excessive, or unnecessary by requiring light for

development to be directed downward to minimize spill-over onto adjacent properties consistent with General Plan Policy ER 7.1.3.

Significance After Mitigation: Mitigation Measure 4.1-2 would ensure that new nighttime light from development within the project area would be sufficiently reduced to avoid disturbing adjacent properties. Implementation of Mitigation Measure 4.1-2 (PUD, CNU) would reduce this impact to a **less-than-significant** level.

Impact 4.1-3: Development allowed under the proposed project could create a new source of glare.

Innovation Park PUD

Glare is caused by direct light sources as well as reflections from pavement, vehicles, and building materials such as reflective glass and polished surfaces. During daylight hours, the amount of glare depends on the intensity and direction of sunlight. At night, artificial lighting can cause glare from reflective surfaces. Glare can create hazards to motorists and nuisances for pedestrians and other viewers. The effects of additional nighttime lighting have been previously considered in the discussion of Impact 4.1-2.

A detailed design of the proposed Innovation Park PUD has not been provided to the City. It is reasonable to assume that development allowed in the project area could include building materials such as reflective glass and polished surfaces that could create glare, potentially resulting in a public hazard or a substantial annoyance to nearby receptors.

The Sacramento 2035 General Plan includes Policy ER 7.1.4, which prohibits new development from using any of the following:

- Reflective glass that exceeds 50 percent of any building surface and on the bottom three floors.
- Mirrored glass.
- Black glass that exceeds 25 percent of any surface of a building.
- Metal building materials that exceed 50 percent of any street-facing surface of a primarily residential building.
- Exposed concrete that exceeds 50 percent of any building.

Adhering to the General Plan's requirements would ensure that development in the project area would not create glare that could result in a public hazard or a substantial annoyance to nearby land uses, and the impact would be **less than significant**.

CNU Medical Center

Figure 2-27 in Chapter 2, *Project Description*, provides an architectural renderings of the proposed CNU Medical Center hospital building. The proposed structure would consist of a multitude of building materials, including cement, stucco, and stone, none of which would be anticipated to produce glare, as well as glass, which could produce glare if not designed appropriately.

Although the other proposed buildings that would compose the CNU Medical Center have not been designed, they would be anticipated to use materials consistent with those used for the hospital. Because a detailed and comprehensive design of the proposed CNU Medical Center has not yet been completed, it is reasonable to assume that the proposed CNU Medical Center site could include building materials such as reflective glass and polished surfaces that could create glare, potentially resulting in a public hazard or a substantial annoyance to nearby receptors.

The Sacramento 2035 General Plan includes Policy ER 7.1.4, which prohibits new development from using any of the following:

- Reflective glass that exceeds 50 percent of any building surface and on the bottom three floors.
- Mirrored glass.
- Black glass that exceeds 25 percent of any surface of a building.
- Metal building materials that exceed 50 percent of any street-facing surface of a primarily residential building.
- Exposed concrete that exceeds 50 percent of any building.

Adhering to the General Plan's requirements would ensure that development of the proposed CNU Medical Center would not create glare that could result in a public hazard or a substantial annoyance to nearby land uses. Compliance with this standard will be enforced through the City's site plan design review process. In addition, the hospital building will be designed to meet the requirements of the LEED Pilot Credit 55, which requires that all windows and glazing use nonreflective materials or be designed to eliminate daytime glare. This credit analyzes all the exterior materials used and limits the proportion of materials that are deemed to have a high threat factor to birds. This credit was crafted by the American Bird Conservatory and is their preferred guideline for building designers (as stated in their Bird Friendly Building Design Guide). Satisfaction of these requirements will also reduce glare that could result in a public hazard or substantial annoyance to nearby land uses, and the impact would be **less than significant**.

Mitigation Measure

None required.

Cumulative Impacts

Impact 4.1-4: Development allowed under the proposed project, in combination with other cumulative development, could contribute to substantial cumulative degradation of existing visual character or quality.

The geographic context for changes in the visual character in the project vicinity is the North Natomas Community Plan area. The NNCP area consists of approximately 7,440 acres within the Sacramento cityc limits and 1,561 acres in Sacramento County. As discussed above in Section 4.1.1, *Environmental Setting*, the NNCP area contains a mixture of undeveloped

agricultural land and residential neighborhoods interspersed with retail centers, commercial uses, and office uses. Table 4.0-1 presents a list of projects located within one-half mile of the project area boundary that either are currently under construction or have been proposed.

The proposed project, in conjunction with pending and/or approved development, would intensify the existing urban visual character of the NNCP area. However, the addition of cumulative development within the NNCP area would not degrade the existing visual character or quality in the vicinity. The proposed project would fill in the urban fabric of the vicinity and the project designs would be consistent with the surrounding urban character of the area. Therefore, the proposed project's contribution to this cumulative impact would not be cumulatively considerable, and thus the cumulative impact would be **less than significant**.

Mitigation Measure

None required.

Impact 4.1-5: Development allowed under the proposed project, in combination with other cumulative development, could contribute to cumulative sources of substantial light in the area.

Cumulative impacts related to light under buildout of the General Plan are analyzed in the Sacramento 2035 General Plan Master EIR. Under General Plan buildout, the geographic context for the analysis of cumulative visual resources impacts is the Policy Area, which includes the existing incorporated city limits plus a few small adjacent areas to the north and west. This cumulative impact analysis considers implementation of the proposed 2035 General Plan.

As discussed previously, Sacramento is an urbanized city and contains numerous existing sources of nighttime lighting. Existing development within the Sacramento city limits and in the remainder of Sacramento County outside of the city limits have resulted in a cumulative increase in nighttime lighting.

The cumulative effect of this past development has been a cumulative loss of available nighttime views, resulting in a significant cumulative effect. Future development would occur in the city within existing urban uses, which would already be subject to lighting from existing development and vehicle headlights. General Plan Policy ER 7.1.3 requires that misdirected, excessive, or unnecessary outdoor lighting be minimized. Compliance with existing City policy by future development in the City, including the proposed project, would limit excessive lighting. Therefore, the proposed project's contribution to this cumulative impact would not be cumulatively considerable, and thus the cumulative impact would be **less than significant**.

Mitigation Measure

None required.

Impact 4.1-6: Development allowed under the proposed project, in combination with other cumulative development, could contribute to cumulative sources of glare.

The cumulative context for glare is the geographic area where glare generated by development allowed under the proposed project is also exposed to glare from other cumulative projects. This area would primarily include development in the vicinity of the project area. It should be noted that glare is a project-specific effect, caused by individual occurrences that do not necessarily lead to cumulative effects. The cumulative effects would typically be annoyance and awareness that glare is recurring in an area.

The North Natomas Community Plan area is an urbanized area with retail centers that generally consist of large concrete buildings located either adjacent to the street frontage or set back with large, sparsely landscaped surface parking areas. These retail centers also generally have a large amount of artificial lighting, both in the parking lots and on the storefronts and signs. Many of the storefronts consist primarily of glass that can be a source of glare.

Glare from sunlight reflecting off a glass surface could cause a public hazard or annoyance to motorists. At certain times of the day, buildings with glass-dominated façades can affect drivers within sight of them. However, projects of substantial size that could contribute to added glare in the city would be required to go through the City's design review process; in many cases, future projects would also be subject to CEQA review and may require further mitigation for glare impacts. In addition, General Plan Policy ER 7.1.4 prohibits new development from using any of the following:

- Reflective glass that exceeds 50 percent of any building surface and on the bottom three floors.
- Mirrored glass.
- Black glass that exceeds 25 percent of any surface of a building.
- Metal building materials that exceed 50 percent of any street-facing surface of a primarily residential building.
- Exposed concrete that exceeds 50 percent of any building.

Compliance with existing City policy by future development in the vicinity of the project area, including development allowed under the proposed project, would limit the amount of glare created in the project area and vicinity, and the proposed project's contribution to this cumulative impact would not be cumulatively considerable, and thus the cumulative impact would be **less than significant**.

Mitigation Measure

None required.

4.2 Air Quality

This section describes the existing ambient air quality environment in and around the Innovation Park PUD area (referred to in this section as the *project area*), including the site of the proposed CNU Medical Center. It evaluates changes to air quality conditions that could result from implementation of the proposed Innovation Park PUD, including the CNU Medical Center (together referred to herein as the *proposed project*).

The City received comments on the Notice of Preparation (NOP) related to air quality, which are addressed in this section to the extent they pertain to the impacts of the proposed project. NOP comments relevant to this section include requests for the City to evaluate construction and operational air quality impacts with both a Construction Air Quality Management Plan and an Air Quality Mitigation Plan to address operational emissions, consistent with guidance from the Sacramento Metropolitan Air Quality Management District (SMAQMD). This has been addressed in Impacts 4.2-2, 4.2-3, 4.2-4, and 4.2-6 of this section.

The analysis included in this section was developed based on project-specific construction and operational features and assumptions, data provided in the *Sacramento 2035 General Plan*,[1] the *Sacramento 2035 General Plan Master Environmental Impact Report*,[2] and traffic information provided by the traffic consultant (see Section 4.10, *Transportation and Circulation*). The impacts were assessed consistent with the guidance provided by the SMAQMD's *CEQA Guide to Air Quality Assessment in Sacramento County*.[3]

4.2.1 Environmental Setting

Air quality is affected by the rate, type, and location of pollutant emissions and the associated meteorological conditions that influence pollutant movement and dispersal. Wind speed, wind direction, barometric pressure, and air temperature combined with geographic features such as mountains and valleys determine how air pollutant emissions affect local air quality.

Climate and Topography

The project area is located within the city of Sacramento, which lies within the Sacramento Valley Air Basin (SVAB). The SVAB includes topographic features that regulate the climate including the Coast Range to the west, the Sierra Nevada to the east, and the Cascade Range to the north. These mountain ranges channel winds through the SVAB but also inhibit the dispersion of pollutant emissions. The SVAB, including Sacramento, is characterized by a Mediterranean climate that includes mild, rainy winter weather from November through March and warm to hot, dry weather from May through September.

1 City of Sacramento. 2015. *City of Sacramento 2035 General Plan.* Adopted March 3, 2015.

2 City of Sacramento. 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report* (SCH No. 2012122006). Certified March 3, 2015.

3 Sacramento Metropolitan Air Quality Management District. 2009. Guide to Air Quality Assessment in Sacramento County. December 2009. Available: http://www.airquality.org/businesses/ceqa-land-use-planning/ceqa-guidance-tools. Last updated April, 2020.

During the summer, the Sacramento Valley has an average high temperature of 92 degrees Fahrenheit (°F) and an average low temperature of 58°F. In the winter, the average high temperature is 58°F and the average low is 40°F. The average annual rainfall is approximately 20 inches.

The predominant annual and summer wind pattern in the Sacramento Valley is the full sea breeze, commonly referred to as Delta breezes. These cool winds originate from the Pacific Ocean and flow through the Carquinez Strait, a sea-level gap in the Coast Range. In the winter (December to February), northerly winds predominate. Wind directions in the Sacramento Valley are influenced by the predominant wind flow pattern associated with each season. During about half the days from July through September, however, a phenomenon called the "Schultz Eddy," a large isotropic vertical-axis eddy on the north side of the Carquinez Strait, prevents the Delta breezes from transporting pollutants north and out of the Sacramento Valley and causes the wind pattern to circle back south, all of which tends to keep air pollutants in the Sacramento Valley. The effect of this phenomenon exacerbates the pollutant levels in the area and increases the likelihood of violations of state and federal air quality standards during this time period.

The vertical and horizontal movement of air is an important atmospheric component involved in the dispersion and subsequent dilution of air pollutants. Without atmospheric movement, air pollutants can collect and concentrate in a single area, increasing the associated health hazards. For example, inversions occur frequently in the SVAB, especially during the fall and early winter, and restrict the vertical dispersion of pollutants released near ground level.

Air Pollutants of Concern

Air pollutants of concern within the SVAB include criteria air pollutants and toxic air contaminants (TACs).

Criteria Air Pollutants

Criteria air pollutants are a group of six common air pollutants for which the U.S. Environmental Protection Agency (USEPA) has set ambient air quality standards. Criteria air pollutants include ground-level ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM) in size fractions of 10 microns or less in diameter (PM_{10}) and 2.5 microns or less in diameter ($PM_{2.5}$), and lead. Most of the criteria air pollutants are primary pollutants and are directly emitted from sources. Ozone, however, is a secondary pollutant that is formed in the atmosphere by a chemical reaction between nitrogen oxides (NO_x), reactive organic gases (ROG), and sunlight. In addition to the criteria air pollutants identified by the USEPA, California regulates four additional criteria air pollutants (visibility reducing particulates, sulfates, hydrogen sulfide, and vinyl chloride).

Criteria air pollutants of concern in the SVAB include ozone, PM_{10}, and $PM_{2.5}$, as concentrations of these pollutants are above state and national ambient air quality standards (see Section 4.2.2). Nitrogen dioxide, carbon monoxide, sulfur dioxide, lead, visibility reducing particulates, sulfates, hydrogen sulfide, and vinyl chloride concentrations are well below state and national ambient air quality standards and are not air pollutants of concern in the SVAB. **Table 4.2-1** lists the health effects associated with the criteria air pollutants of concern.

TABLE 4.2-1
HEALTH EFFECTS OF MAIN CRITERIA AIR POLLUTANTS

Pollutant	Adverse Effects
Ozone	• People most at risk from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers. In addition, people with certain genetic characteristics, and people with reduced intake of certain nutrients (such as vitamins C and E) are at greater risk from ozone exposure. • Breathing ozone can trigger a variety of health problems including chest pain, coughing, throat irritation, and airway inflammation. It also can reduce lung function and harm lung tissue. Ozone can worsen bronchitis, emphysema, and asthma, leading to increased medical care. • Ozone affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, ozone harms sensitive vegetation during the growing season.
Particulate Matter	• Particulate matter (PM) contains microscopic solids or liquid droplets that are so small that they can be inhaled and cause serious health problems. Particles less than 10 micrometers in diameter pose the greatest problems, because they can get deep into your lungs, and some may even enter the bloodstream. Of these, particles less than 2.5 micrometers in diameter, also known as fine particles or $PM_{2.5}$, pose the greatest risk to health. • Exposure to such particles can affect both your lungs and your heart. Numerous scientific studies have linked particle pollution exposure to a variety of problems, including: premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing. • Fine particles ($PM_{2.5}$) are the main cause of reduced visibility (haze) in parts of the United States, including many national parks and wilderness areas.
Nitrogen Dioxide	• Breathing air with a high concentration of NO_2 can irritate airways in the human respiratory system. Such exposures over short periods can aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing, or difficulty breathing), hospital admissions, and visits to emergency rooms. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly, are generally at greater risk for the health effects of NO_2. • NO_2, along with other oxides of nitrogen (NO_X), reacts with other chemicals in the air to form both PM and ozone. Both of these are also harmful when inhaled due to effects on the respiratory system.

SOURCES: U.S. Environmental Protection Agency (USEPA). 2021. Ozone Basics. Available: https://www.epa.gov/ozone-pollution/ozone-basics#effects. Accessed June 29, 2021.
USEPA. 2016. Basic Information about Carbon Monoxide (CO) Outdoor Air Pollution. Available: https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution#Effects. Accessed June 29, 2021.
USEPA. 2021. Particulate Matter (PM) Basics. Available: https://www.epa.gov/pm-pollution/particulate-matter-pm-basics#effects. Accessed June 29, 2021.
USEPA. 2016. Basic Information about NO_2. Available: https://www.epa.gov/no2-pollution/basic-information-about-no2#Effects. Accessed June 29, 2021.

Ground-Level Ozone

As discussed above, ground-level ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving the ozone precursors, which are reactive organic gases (ROG), also referred to as volatile organic compounds (VOC), oxides of nitrogen (NO_X), and sunlight. The main sources of ROG in the SVAB are the evaporation of solvents, paints, and fuels; the main sources of NO_X are combustion processes (including motor vehicle engines). Ozone is a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through a photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath, and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide

Carbon monoxide (CO) is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicle engines; the highest emissions occur during low travel speeds, stop-and-go driving, cold starts, and hard acceleration. Exposure of humans to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue; impaired central nervous system function; and angina (chest pain) in persons with serious heart disease. Very high concentrations of CO can be fatal.

Particulate Matter

Particulate matter (PM) is frequently classified by particle size, where PM_{10} consists of PM that is 10 microns or less in diameter and $PM_{2.5}$ consists of the subset of PM_{10} that is 2.5 microns or less in diameter (a micron is one-millionth of a meter). PM_{10} and $PM_{2.5}$ represent the fractions of PM that can be inhaled into air passages and the lungs and can cause adverse health effects. Some sources of PM (such as wood burning in fireplaces, demolition, and construction activities) are more local in nature, while others (such as vehicular traffic) have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials, such as statues and monuments, and reduce visibility.

Large dust particles (diameter greater than 10 microns) settle out rapidly and are easily filtered by human breathing passages. This large dust is of more concern as a soiling nuisance rather than a health hazard. The remaining fine particulate matter, PM_{10} and $PM_{2.5}$, is a health concern, particularly at levels above the federal and state ambient air quality standards. $PM_{2.5}$ (including diesel exhaust particles) has greater effects on health because these particles are small enough to penetrate to the deepest parts of the lungs.

Nitrogen Dioxide

Nitrogen dioxide (NO_2) is a reddish brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels.

Other Criteria Air Pollutants

Other criteria air pollutants include SO_2 and lead, which are not air pollutants of concern in the SVAB. SO_2 is a combustion product of sulfur or sulfur-containing fuels such as coal and diesel. SO_2 is also a precursor to the formation of particulate matter, atmospheric sulfate, and atmospheric sulfuric acid formation that could precipitate downwind as acid rain. The maximum SO_2 concentrations recorded in the vicinity of the Innovation Park PUD area are well below federal and state standards.

Leaded gasoline (phased out in the United States beginning in 1973), lead-based paint (on older houses and cars), smelters (metal refineries), and manufacture of lead storage batteries have been

the primary sources of lead released into the atmosphere. Lead has a range of adverse neurotoxic health effects, which puts children at special risk. Some lead-containing chemicals cause cancer in animals. Lead levels in the air have decreased substantially since leaded gasoline was eliminated. Ambient lead concentrations are only monitored on an as-warranted, site-specific basis in California.

Toxic Air Contaminants

Toxic air contaminants (TACs) are State of California-designated airborne substances that are capable of causing short-term (acute) and long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances and may be emitted from a variety of common sources including gasoline stations, automobiles, diesel engines, dry cleaners, industrial operations, and painting operations. TACs of concern for the proposed project include diesel particulate matter (DPM) and asbestos. For the hospital component of the project, TACs of concern include DPM from operations of diesel emergency back-up generators and laboratory air toxics from fume hoods.

Diesel Particulate Matter

The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic carcinogens. Mobile sources such as trucks and buses are among the primary sources of diesel emissions, and concentrations of DPM are higher near heavily traveled highways and rail lines with diesel locomotive operations.

The California Air Resources Board (CARB) identified DPM as a TAC in 1998, primarily based on evidence demonstrating cancer effects in humans. It is estimated that about 70% of total known cancer risk related to air toxics in California is attributable to DPM. More than 90 percent of DPM is less than 1 microgram (μm) in diameter and thus is a subset of $PM_{2.5}$; therefore, DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure (see Table 4.2-1). DPM may also facilitate the development of new allergies.

Regulation of diesel engines and fuels has decreased DPM levels by 68 percent since 1990. Furthermore, CARB estimates that emissions of DPM in 2035 will be less than half those in 2010, even with increasing vehicle miles traveled (VMT).[4] Nonetheless, based on 2012 estimates of statewide exposure, DPM is estimated to increase statewide cancer risk by 520 cancers per million residents exposed over a lifetime.

Asbestos

Asbestos is a fibrous mineral and used as a processed component of building materials. Because asbestos has been proven to cause serious adverse health effects, including asbestosis and lung cancer, it is strictly regulated based on its natural widespread occurrence and its use as a building material. When building materials containing asbestos are disturbed, asbestos fibers may be released and suspended in ambient air. Asbestos is also naturally occurring in ultramafic rock

[4] California Air Resources Board. 2016. Overview: Diesel Exhaust and Health. Available: https://www.arb.ca.gov/research/diesel/diesel-health.htm. Accessed August 31, 2021.

(a rock type commonly found in California), but its occurrence with the project area has a low probability.[5]

Existing Conditions

The project area is located in Sacramento, California, approximately 80 miles east of San Francisco and 85 miles west of Lake Tahoe. The project area encompasses 183.8 acres, and is located within the City of Sacramento's North Natomas community in the northwestern portion of the city. The project area is comprised of five parcels, which include the Sleep Train Arena site, which includes the Sleep Train Arena building and former Sacramento Kings practice facility, parking areas surrounding the arena structure, and partially and fully undeveloped areas to the north of the arena and parking areas. The Sleep Train Arena and former practice facility are closed and have no existing emissions sources.

Existing Ambient Air Quality

Nearby ambient air quality monitoring stations, which are representative of the ambient air within the project area, are located in Sacramento at 1309 T Street and 100 Bercut Drive. The Bercut Drive monitoring station provides the nearest representative measurement of NO_2, CO, and $PM_{2.5}$, and is located approximately 4 miles south of the project area. The T Street monitoring station provides the nearest representative measurement of O_3 and PM_{10}, and is located approximately 6 miles south of the project area. **Table 4.2-2** presents a three-year summary of air pollutant concentration data collected at these monitoring stations for O_3, PM_{10}, $PM_{2.5}$, NO_2, and CO, as well as the number of days the applicable standards were exceeded during the given year. National and state regulatory standards are discussed in detail in the *Regulatory Setting*, Section 4.2.2 below.

As described in Table 4.2-2, ozone levels in the vicinity of the project area have resulted in numerous violations of ambient air quality standards from 2017 to 2019. During the three-year study period, concentrations of ozone in the vicinity of the project area have only exceeded the one-hour state standard once each year but have exceeded the eight-hour state and national standards three in 2017 and one time in each 2018 and 2019.

Monitoring data for PM_{10} in the vicinity of the project area recorded the 24-hour standard was exceeded six times in 2018 and once in 2019. For $PM_{2.5}$, the study area was estimated to have exceeded the 24-hour national standard approximately six times in 2017 and approximately seven times in 2018. In 2019, the $PM_{2.5}$ 24-hour national standard was not exceeded.

Odors

Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective.

[5] California Department of Conservation. 2000. A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos. August, 2000. https://ww2.arb.ca.gov/sites/default/files/classic//toxics/asbestos/ofr_2000-019.pdf. Accessed June 29, 2021.

TABLE 4.2-2
SUMMARY OF AIR QUALITY MONITORING DATA (2017–2019)

Pollutant	National/State Standard	2017	2018	2019
Ozone				
Maximum 1-hour concentration, ppm	0.09 [a]	**0.107**	**0.097**	**0.100**
Number of days above state 1-hour standard		**1**	**1**	**1**
Maximum 8-hour concentration, ppm	0.070 / 0.070	**0.077**	**0.084**	**0.074**
Number of days above national 8-hour standard		**3**	**1**	**1**
Number of days above state 8-hour standard		**3**	**1**	**1**
Nitrogen Dioxide (NO_2)				
Annual average concentration, ppm	0.053 / 0.030	0.013	0.012	0.012
Maximum 1-hour concentration, ppm	0.100 / 0.18	0.061	0.053	0.053
Number of days above national 1-hour standard		0	0	0
Number of days above state 1-hour standard		0	0	0
Respirable Particulate Matter (PM_{10})				
Annual average concentration, µg/m^3	20 [a]	**23.8**	**29.7**	**20.2**
Maximum 24-hour concentration (national/state), µg/m^3	150 / 50	149.9/**150.3**	**292.6**/**309.5**	**174.7**/**179.1**
Estimated number of days above national 24-hour standard [c]		0	**6.0**	**1.0**
Estimated number of days above state 24-hour standard [c]		NA	**22.2**	**22.2**
Fine Particulate Matter ($PM_{2.5}$)				
Annual average concentration, µg/m^3	12.0 / 12	9.3	12.0	8.3
Maximum 24-hour concentration, µg/m^3	35 [b]	**46.9**	**207.1**	**35.3**
Estimated number of days above national 24-hour standard [c]		**5.9**	**6.8**	0
Carbon Monoxide (CO)				
Maximum 8-hour concentration, ppm	9 / 9.0	1.2	3.0	1.3
Number of days above national or state 8-hour standard		0	0	0
Maximum 1-hour concentration, ppm	35 / 20	1.9	3.3	1.5
Number of days above national or state 1-hour standard		0	0	0

NOTES: Number of days exceeded is for all days in a given year, except for particulate matter. PM_{10} and $PM_{2.5}$ are monitored every six days. Ozone and PM_{10} monitoring data from T Street Station (CARB 2020). Carbon monoxide, NO_2, and $PM_{2.5}$ monitoring data from Sacramento-Bercut (USEPA 2021). The CARB and USEPA use different methods to calculate the emissions for certain criteria air pollutants for comparisons to the state and national standards.

Bold values are in excess of applicable standard.
ppm = parts per million; µg/m^3 = micrograms per cubic meter; NA = No data or insufficient data.

[a] State standard, not to be exceeded.

[b] National standard, not to be exceeded.

[c] Particulate matter sampling schedule of one out of every six days, for a total of approximately 60 samples per year. Estimated days exceeded mathematically estimates of how many days concentrations would have been greater than the level of the standard had each day been monitored.

SOURCES: California Air Resources Board. 2020. *Summaries of Air Quality Data, 2017-2019*. Available: https://www.arb.ca.gov/adam/index.html. Accessed June 29, 2021.
U.S. Environmental Protection Agency (USEPA). 2021. AirData. Available: https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=5f239fd3e72f424f98ef3d5def547eb5. Accessed June 29, 2021.

People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor, and recognition only occurs with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Sensitive Receptors

Air quality does not affect individuals or groups within the population in the same way, and some groups are more sensitive to adverse health effects caused by exposure to air pollutants than others. Population subgroups sensitive to the health effects of air pollutants include the elderly and the young, those with higher rates of respiratory disease such as asthma and chronic obstructive pulmonary disease, and with other environmental or occupational health exposures (e.g., indoor air quality) that affect cardiovascular or respiratory diseases.

Land uses such as schools, children's day care centers, hospitals, and nursing and convalescent homes are considered to be the most sensitive to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Parks and playgrounds are considered moderately sensitive to poor air quality because persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality; however, exposure times are generally far shorter in parks and playgrounds than in residential locations and schools, which typically reduces the overall health risk associated with exposure to pollutants. Residential areas are considered more sensitive to air quality conditions compared to commercial and industrial areas because people generally spend longer periods of time at their residences, with associated greater exposure to ambient air quality conditions. Workers are not considered sensitive receptors because all employers are required to follow regulations set forth by the Occupational Safety and Health Administration (OSHA) to ensure the health and well-being of their employees.

The following residential sensitive receptors are located within a 1,000-foot radius of the project area:

- Bella Rose Villas, located less than 100 feet west of the project area.
- Ashton Parc Apartments, located less than 100 feet south of the project area.
- Villagio Luxury Apartments, located approximately 200 feet south of the project area.
- Granite Point Apartments, located approximately 300 feet northeast of the project area.
- Tuscaro Apartment Homes, located approximately 300 feet east of the project area.
- Condos at the corner of Benefit Way and East Commerce Way, located approximately 650 feet west of the project area.
- Beazer Homes Natomas Field Villas, located approximately 650 feet southeast of the project area.
- Vintage at Natomas Field Senior Apartments, located approximately 750 feet south of the project area.

- Provence by Blue Mountain Communities, located approximate 750 feet west of the project area.
- Alira Luxury Apartments, located approximately 600 feet southeast of the project area.

Additionally, the following non-residential sensitive receptors are located near the project area:

- Learning Pointe Christian Preschool, located less than 100 feet north of the project area.
- NP3 Elementary School, located approximately 100 feet west of the project area.
- Little Blossom Montessori School, located approximately 200 feet east of the project area.
- Inderkum High School, located approximately 800 feet north of the project area.

Baseline Conditions

The project area currently includes the Sleep Train Arena building and former Sacramento Kings practice facility, parking areas surrounding the arena structure, and partially and fully undeveloped areas to the north of the arena and parking areas. The arena and the associated structures are not currently being used. Therefore, baseline conditions conservatively assume no associated air quality emissions and a baseline of zero emissions.

4.2.2 Regulatory Setting

Federal

Criteria Air Pollutants

The USEPA is required by the federal Clean Air Act (CAA) to identify and establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment. The federal CAA identifies two types of NAAQS: primary and secondary. Primary standards provide public health protection, including protecting the health of sensitive populations such as those with pre-existing respiratory conditions, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

The USEPA has set NAAQS for six principal pollutants, called criteria air pollutants. These criteria air pollutants include O_3, NO_2, SO_2, CO, PM, and lead. As discussed previously, PM is separated into two different criteria pollutants based on particle fraction size; these separate standards are in terms of PM_{10} and $PM_{2.5}$. **Table 4.2-3** presents the current NAAQS (and state ambient air quality standards) and provides a brief discussion of the principal sources for each pollutant.

The USEPA classifies air basins (or portions thereof) as “attainment” or “nonattainment” for each criteria air pollutant, based on whether or not the NAAQS had been achieved. The classification is determined by comparing monitoring data with the standards (please refer to Table 4.2-2 above). “Unclassified” is defined by the federal CAA as any area that cannot be classified, on the basis of available information, as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant. Furthermore, an area may be designated attainment with a maintenance plan (also known as a maintenance area), which means that an area was previously classified as nonattainment for a criteria air pollutant but has since been redesignated as

attainment. These areas have demonstrated through modeling that they have sufficient controls in place to meet and maintain the NAAQS.

TABLE 4.2-3
NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS AND MAJOR SOURCES

Pollutant	Averaging Time	State Standard	National Standard	Major Pollutant Sources
Ozone	1 hour	0.09 ppm	---	Formed when reactive organic gases (ROG) and nitrogen oxides (NO_X) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 hour	0.070 ppm	0.070 ppm	
Carbon Monoxide	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hour [1]	9.0 ppm	9 ppm	
Nitrogen Dioxide	1 hour	0.18 ppm	100 ppb	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Avg.	0.030 ppm	0.053 ppm	
Sulfur Dioxide	1 hour	0.25 ppm	75 ppb	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hour	---	0.5 ppm [2]	
	24 hour	0.04 ppm	0.14 ppm	
	Annual Avg.	---	0.030 ppm	
Respirable Particulate Matter (PM_{10})	24 hour	50 µg/m^3	150 µg/m^3	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Avg.	20 µg/m^3	---	
Fine Particulate Matter ($PM_{2.5}$)	24 hour	---	35 µg/m^3	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; also formed from photochemical reactions of other pollutants, including NO_X, sulfur oxides, and organics.
	Annual Avg.	12 µg/m^3	12.0 µg/m^3	
Lead	Monthly Avg.	1.5 µg/m^3	---	Present source: lead smelters, battery manufacturing, and recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	---	1.5 µg/m^3	
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	Geothermal power plants, petroleum production, and refining
Sulfates	24 hour	25 µg/m^3	No National Standard	Produced by the reaction in the air of SO_2.
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	See $PM_{2.5}$.
Vinyl chloride	24 hour	0.01 ppm	No National Standard	Polyvinyl chloride and vinyl manufacturing.

NOTES: ppb = parts per billion; ppm = parts per million; µg/m^3 = micrograms per cubic meter.

[1] A more stringent 8-hour carbon monoxide state standard exists around Lake Tahoe (6 ppm).

[2] Secondary national standard.

SOURCE: California Air Resources Board. 2016. *Ambient Air Quality Standards.* Available: https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf. Standards last updated May 4, 2016.

The Sacramento region's attainment status for the criteria air pollutants is summarized in **Table 4.2-4** (state designations are also provided). The Sacramento region is considered a federal nonattainment area for ozone and $PM_{2.5}$ and an attainment-maintenance area for the federal CO and PM_{10} standards.

TABLE 4.2-4
SACRAMENTO COUNTY ATTAINMENT STATUS

Pollutant and Averaging Time	Designation/Classification	
	State Standards	Federal Standards
Ozone (1-hour)	Nonattainment	No Federal Standard
Ozone (8-hour)	Nonattainment	Nonattainment/Severe
Carbon Monoxide	Attainment	Attainment/Maintenance
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified/Attainment
Respirable Particulate Matter (PM_{10})	Nonattainment	Attainment/Maintenance*
Fine Particulate Matter ($PM_{2.5}$)	Attainment	Nonattainment/Moderate
Lead	Attainment	Unclassified/Attainment
Visibility Reducing Particles	Unclassified	No Federal Standard
Sulfates	Attainment	No Federal Standard
Hydrogen Sulfide	Unclassified	No Federal Standard
Vinyl Chloride	Unclassified	No Federal Standard

NOTES: CARB makes area designations for ten criteria pollutants (O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, lead, visibility reducing particles, sulfates, and hydrogen sulfide). CARB does not designate areas according to the vinyl chloride standard.
* Effective October 28, 2013, the USEPA formally re-designated Sacramento County as attainment for the federal PM_{10} standard.

SOURCE: California Air Resources Board. 2019. *Area Designation Maps*. Available: http://www.arb.ca.gov/desig/adm/adm.htm. Accessed June 29, 2021.

The federal CAA requires each state to prepare an air quality control plan, referred to as a State Implementation Plan (SIP). The SIP is a living document that is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The USEPA has responsibility to review all state SIPs to determine if they conform to the mandates of the federal CAA and will achieve air quality goals when implemented.

Hazardous Air Pollutants

Federal laws use the term "hazardous air pollutants" (HAPs) to refer to the same types of compounds that are referred to as TACs under state law. Currently, 187 substances are regulated as HAPs. The federal CAA requires the USEPA to identify National Emission Standards for Hazardous Air Pollutants (NESHAPs) to protect public health and welfare. NESHAPs potentially applicable to the proposed project include the National Emission Standard for Asbestos (40 Code of Federal Regulations [CFR] 61, Subpart M).

State

Criteria Air Pollutants

At the state level, the CARB oversees California's air quality policies and regulations. California had adopted its own air quality standards (California Ambient Air Quality Standards, or CAAQS), as shown in Table 4.2-2. California's ambient standards are required to be at least as protective as NAAQS and in some cases are more stringent.

In 1988, California passed the California Clean Air Act (CCAA) (California Health and Safety Code Sections 39600 et seq.), which, like its federal counterpart, called for the designation of areas as attainment or nonattainment, based on state ambient air quality standards rather than the federal standards. The CCAA requires each air district in which state air quality standards are exceeded to prepare a plan that documents reasonable progress toward attainment. If an air basin (or portion thereof) exceeds the CAAQS for a particular criteria air pollutant, it is considered to be nonattainment for that criteria air pollutant until the area can demonstrate compliance. As indicated in Table 4.2-4, Sacramento County is classified as nonattainment and serious nonattainment for the 8-hour and 1-hour state ozone standards, respectively, and is nonattainment for the 24-hour and annual state PM_{10} standard.

Toxic Air Contaminants

The State Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807. A total of 243 substances have been designated TACs under California law; they include the 187 (federal) HAPs adopted in accordance with state law. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify, quantify, and evaluate risk from air toxics sources; however, AB 2588 does not regulate air toxics emissions.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. Further regulations of diesel emissions by the CARB include the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Offroad Diesel Vehicle Regulation, and the New Offroad Compression Ignition Diesel Engines and Equipment Program. All of these regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment.

In 2004, CARB adopted a measure to limit idling of diesel-fueled commercial motor vehicles. Heavy-duty diesel vehicles with a Gross Vehicle Weight Rating (GVWR) of 10,000 lbs. or heavier are prohibited from idling for more than 2 minutes within California's borders. Exceptions to the rule apply for certain circumstances.

Title 24 - California Building Code Standards

The Building Code Standards for Residential and Nonresidential Buildings specified in Title 24, Part 6 of the California Code of Regulations were established in 1978 in response to a legislative mandate to reduce California's energy consumption and make for development of healthier buildings. The standards are updated approximately every three years to allow for consideration

and possible incorporation of new energy-efficiency technologies and cleaner building methods. The current standards became effective on January 1, 2017.

The latest update to the Title 24 energy efficiency standards (2019 standards) went into effect on January 1, 2020. The updated Title 24 (California Building Code) requires that all new residential construction now install Minimum Efficiency Reporting Value (MERV) 13 filters to reduce particulate impacts on indoor air quality.

SB 350 - Clean Energy and Pollution Reduction Act of 2015

Senate Bill (SB) 350, known as the Clean Energy and Pollution Reduction Act of 2015, was enacted on October 7, 2015 and provides a new set of objectives in clean energy, clean air, and pollution reduction by 2030. The objectives include the following:

1. To increase from 33 percent to 50 percent, the procurement of our electricity from renewable sources.

2. To double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

California Air Resources Board Advanced Clean Car Program

The Advanced Clean Cars emissions-control program was approved by CARB in 2012 and is closely associated with the Pavley regulations. The program requires a greater number of zero-emission vehicle models for years 2015 through 2025 to control mobile sources emissions, smog, soot, and greenhouse gas (GHG) emissions. This program includes the Low-Emissions Vehicle (LEV) regulations to reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles; and the Zero-Emissions Vehicle (ZEV) regulations to require manufactures to produce an increasing number of pure ZEVs (meaning battery and fuel cell electric vehicles) with the provision to produce plug-in hybrid electric vehicles (PHEV) between 2018 and 2025.

California Air Resources Board Mobile Source Strategy

The Mobile Source Strategy (2016) includes an expansion of the Advanced Clean Cars program (which further increases the stringency of emissions for all light-duty vehicles, and 4.2 million zero-emission and plug-in hybrid light-duty vehicles by 2030). It also calls for more stringent GHG requirements for light-duty vehicles beyond 2025 as well as GHG reductions from medium-duty and heavy-duty vehicles and increased deployment of zero-emission trucks primarily for classes 3 through 7 “last mile” delivery trucks in California. Statewide, the Mobile Source Strategy would result in a 45 percent reduction in GHG emissions, and a 50 percent reduction in the consumption of petroleum-based fuels and associated criteria pollutants. CARB’s Mobile Source Strategy includes measures to reduce total light-duty VMT by 15 percent compared to business-as-usual in 2050.

California Air Resources Board Advanced Clean Trucks Regulation

The Advanced Clean Trucks regulation was approved on June 25, 2020 and has two main components: a manufacturer’s ZEV sales requirement, and a one-time reporting requirement for large entities and fleets. Manufacturers who certify Class 2b–8 chassis or complete vehicles with combustion engines are required to sell zero-emissions trucks as an increasing percentage of their

annual California sales from 2024 to 2035. By 2035, zero-emissions truck/chassis sales need to be 55 percent of Class 2b–3 truck sales, 75 percent of Class 4–8 straight truck sales, and 40 percent of truck tractor sales.

Local

Sacramento Metropolitan Air Quality Management District

The SMAQMD is the regional agency responsible for air quality regulation within Sacramento County. The agency regulates air quality through its planning and review activities and has permit authority over most types of stationary emission sources and can require operators of stationary sources to obtain permits, can impose emission limits, set fuel or material specifications, and establish operational limits to reduce air emissions. The SMAQMD regulates new or modified stationary sources of criteria air pollutants and TACs.

All areas designated as nonattainment are required to prepare plans showing how the area would meet the air quality standards by its attainment dates. The following are the most recent air quality plans applicable to the area of the proposed project:

- Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan.[6]
- SMAQMD's Triennial Report and Air Quality Plan Revision.[7]
- PM_{10} Implementation/Maintenance Plan and Redesignation Request for Sacramento County.[8]
- $PM_{2.5}$ Maintenance Plan and Redesignation Request.[9]
- 2004 Revision to the California State Implementation Plan for CO.[10]

The construction phase of the proposed project, including construction of the proposed CNU Medical Center, would be subject to the applicable SMAQMD regulations with regards to construction and stationary equipment, particulate matter generation, architectural coatings, and paving materials. Equipment used during construction would be subject to the applicable requirements of SMAQMD Regulation 2 (Permits), Rule 201 (General Permit Requirements); and Regulation 4 (Prohibitory Rules), Rule 401 (Ringelmann Chart/Opacity), Rule 402 (Nuisance), Rule 403 (Fugitive Dust), Rule 404 (Particulate Matter), Rule 405 (Dust and Condensed Fumes),

6 Sacramento Metropolitan Air Quality Management District. 2013. Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions). September 26, 2013. Available: http://www.airquality.org/ProgramCoordination/Documents/4)%202013%20SIP%20Revision%20Report%20 1997%20Std.pdf. Accessed June 29, 2021.

7 Sacramento Metropolitan Air Quality Management District. 2015. Triennial Report and Air Quality Plan Revision. May 28, 2015. Available: http://www.airquality.org/ProgramCoordination/Documents/11)%20%202015 TriennialReportandProgressRevision.pdf. Accessed June 29, 2021.

8 Sacramento Metropolitan Air Quality Management District. 2010. PM_{10} Implementation/Maintenance Plan and Redesignation Request for Sacramento County. October 28, 2010. Available: http://www.airquality.org/ ProgramCoordination/Documents/10)%20%20PM10%20Imp%20and%20MP%202010.pdf. Accessed June 29, 2021.

9 Sacramento Metropolitan Air Quality Management District. 2013. $PM_{2.5}$ Implementation/Maintenance Plan and Redesignation Request for Sacramento $PM_{2.5}$ Nonattainment Area. October 24, 2013. Available: http://www.airquality.org/ProgramCoordination/Documents/9)%20%20PM2.5%20Imp%20and%20MP%20 2013.pdf. Accessed June 29, 2021.

10 Sacramento Metropolitan Air Quality Management District. 2004. 2004 Revision to the California State Implementation Plan for Carbon Monoxide. July 22, 2004. Available: http://www.airquality.org/ ProgramCoordination/Documents/1)%202004%20CO%20Maintenance%20Plan.pdf. Accessed June 29, 2021.

Rule 420 (Sulfur Content of Fuels), and construction practices would be subject to Rule 442 (Architectural Coatings), and Rule 453 (Cutback and Emulsified Asphalt Paving Materials). Demolition activities would be in compliance with all SMAQMD rules associated with demolition and construction.

The operational phase of the proposed project would be subject to SMAQMD Rule 201, which requires any business or person to obtain an authority to construct and a permit to operate prior to installing or operating new equipment or processes that may release or control air pollutants to ensure that all SMAQMD rules and regulations are considered. Potentially applicable stationary pollutant sources that would be installed as part of the proposed project include multiple new boilers, natural gas burning fire pits, diesel emergency generators, and potentially other equipment. A permit is required for all boilers, process heaters, and steam generators with a rated heat input capacity of 1 million British thermal units (Btu) per hour or greater, or boilers, process heaters, and steam generators of any size that are not fired exclusively on purchased quality natural gas, liquid petroleum gas, or any combination thereof. A permit is required if the aggregate rated heat input capacity of all boilers, process heaters, and steam generators used in the same process is 1 million Btu per hour or greater. SMAQMD Rule 414 applies to boilers rated less than 1 million Btu per hour.

Sacramento 2035 General Plan

The following goals and policies from the 2035 General Plan are relevant to air quality.

Goal ER 6.1: Improved Air Quality. Improve the health and sustainability of the community through improved regional air quality and reduced greenhouse gas emissions that affect climate change.

Policy ER 6.1.1: Maintain Ambient Air Quality Standards. The City shall work with the California Air Resources Board and the Sacramento Metropolitan Air Quality Management District (SMAQMD) to meet State and Federal ambient air quality standards in order to protect residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution.

Policy ER 6.1.2: New Development. The City shall review proposed development projects to ensure projects incorporate feasible measures that reduce construction and operational emissions for reactive organic gases, nitrogen oxides and particulate matter (PM10 and PM2.5) through project design.

Policy ER 6.1.3: Emissions Reduction. The City shall require development projects that exceed SMAQMD ROG and NOx operational thresholds to incorporate design or operational features that reduce emissions equal to 15 percent from the level that would be produced by an unmitigated project.

Policy ER 6.1.4: Sensitive Uses. The City shall coordinate with SMAQMD in evaluating exposure of sensitive receptors to toxic air contaminants, and will impose appropriate conditions on projects to protect public health and safety.

Policy ER 6.1.10: Coordination with SMAQMD. The City shall coordinate with SMAQMD to ensure projects incorporate feasible mitigation measures if not already provided for through project design.

Development allowed under the proposed project, including the proposed CNU Medical Center, would be consistent with policies ER 6.1.1, ER 6.1.2, and ER 6.1.3 because all recommended SMAQMD mitigation measures would be implemented during construction and operation, and development pursuant to the proposed project, including the proposed CNU Medical Center, would comply (if applicable) with the SMAQMD's 15 percent emissions reduction/mitigation guideline through the preparation of the Air Quality Mitigation Plan (AQMP) discussed in Section 4.2.3 below. All mitigation measures proposed would be implemented through coordination with the SMAQMD; therefore, the proposed project, including the proposed CNU Medical Center, would be consistent with ER 6.1.4 and ER 6.1.10.

4.2.3 Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, impacts on air quality may be considered significant if implementation of the proposed project, including development of the proposed CNU Medical Center, would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

SMAQMD has developed significance thresholds to help lead agencies within the CEQA process determine whether a project may have a significant air quality impact. Projects with emissions that are expected to exceed the significance criteria will have a significant adverse impact on air quality. SMAQMD is delegated by CARB to manage air quality within the SVAB, and the recommended thresholds are considered reasonable and appropriate for this project.

SMAQMD has established mass emissions thresholds for O_3 precursors (i.e., NO_x and ROG), PM_{10}, and $PM_{2.5}$ as the Sacramento region does not meet the state and federal ozone or state particulate matter (PM_{10} and $PM_{2.5}$) ambient air quality standards.

For purposes of this EIR, and consistent with SMAQMD guidance, impacts related to air quality may be considered significant if development allowed under the proposed project would result in the following:

- Result in short-term (construction) emissions of NO_x above 85 pounds per day;
- Result in short-term (construction) emissions of PM_{10} above zero pounds per day without implementation of all best management practices (BMPs) and above 80 pounds per day or 14.6 tons per year after implementation of all BMPs;

- Result in short-term (construction) emissions of $PM_{2.5}$ above 0 pounds per day without implementation of all BMPs and above 82 pounds per day or 15.0 tons per year after implementation of all BMPs;
- Result in long-term (operational) emissions of NO_x or ROG above 65 pounds per day;
- Result in long-term (operational) emissions of PM_{10} above 0 pounds per day without implementation of all BMPs and above 80 pounds per day or 14.6 tons per year after implementation of all BMPs;
- Result in long-term (operational) emissions of $PM_{2.5}$ above 0 pounds per day without implementation of all BMPs and above 82 pounds per day or 15.0 tons per year after implementation of all BMPs;
- Result in CO concentrations that exceed the one-hour state ambient air quality standard (i.e., 20.0 ppm) or the eight-hour state ambient standard (i.e., 9.0 ppm); or
- Create objectionable odors affecting a substantial number of people.

The SMAQMD does not specifically recommend significance thresholds for the evaluation of health risks from TAC exposure for land use development and construction projects.[11] Therefore, the analysis in this section uses the following significance thresholds to estimate cancer and non-cancer risk based on guidance from the Bay Area Air Quality Management District (BAAQMD), which is appropriate for this project:[12] Because BAAQMD is a neighboring air district to SMAQMD and, additionally, because the BAAQMD threshold of significance for cancer risk and non-cancer risk are identical to SMAQMD's cancer risk thresholds for stationary sources, applying the BAAQMD thresholds to TAC exposure is a conservative approach for determining significance.

- TAC exposures resulting in an incremental increase lifetime cancer risk exceeding 10 in 1 million for any sensitive receptor.
- TAC exposures resulting in a non-cancer risk that would exceed a Hazard Index greater than 1 for any sensitive receptor.

Methodology and Assumptions

Project-related air quality impacts fall into two categories: short-term impacts due to construction, and long-term impacts due to project operation. During construction of development allowed under the Innovation Park PUD, including construction of the proposed CNU Medical Center, activities would generate criteria air pollutants primarily from the combustion of fuel in construction equipment and vehicle trips associated with worker commute, material delivery, and hauling. In addition, development allowed under the proposed project would affect local

[11] Sacramento Metropolitan Air Quality Management District. 2009. SMAQMD Thresholds of Significance Table. Last updated in April 2020. Available: http://www.airquality.org/LandUseTransportation/Documents/CH2ThresholdsTable4-2020.pdf.

[12] Bay Area Air Quality Management District. 2017. California Environmental Quality Act Air Quality Guidelines. May 2017. Available: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en.

particulate concentrations due to fugitive dust generated from ground-disturbing activities and vehicle travel on unpaved surfaces.

Once the project area is developed, operational emissions would be primarily from motor vehicle trips generated by the land uses allowed, including stationary sources associated with the CNU Medical Center (e.g., laboratory fume hoods, central utility plant boiler[s], and emergency generators). Emergency helicopter operations at the helistop proposed at the CNU Medical Center would also generate emissions. Other operational emissions would be generated from onsite sources such as natural gas combustion for space and water heating and area sources such as landscaping and use of consumer products.

Construction Impacts

The emissions generated from construction activities include:

- Exhaust emissions from fuel combustion for mobile heavy-duty diesel and gasoline-powered equipment (including construction equipment and employee vehicles).
- Particulate matter from soil disturbance and site preparation and grading activities (also known as fugitive dust).
- Evaporative emissions of ROG from paving activity and the application of architectural coatings.

Construction emissions were estimated using the latest version of the California Emissions Estimator Model (CalEEMod) version 2020.4.0. Project-specific inputs to the model included the types and sizes of land uses proposed for construction, site area, demolition area, infill and off-haul volumes, and starting year of construction. The modeling includes demolition of the Sleep Train Arena and other facilities onsite under conventional, non-implosion, conditions. The construction of the proposed CNU Medical Center was modeled independently of the remaining project area. The CNU Medical Center is anticipated to start construction in 2022 and continue in three phases through 2032. Specified CNU land use types and the construction schedule were modeled in CalEEMod, along with defaults for construction equipment activity and haul truck, vendor, and work trips.

For the remaining project area, construction is expected to begin in 2022 and last for 16 years with full buildout expected by 2038. As specific development proposals are currently not available to estimate construction phasing and equipment needs, CalEEMod defaults were used for the duration of various construction phases, types, number, and activity level of equipment used under each phase as well as worker and truck trips associated with each phase. Because CalEEMod does not have built-in defaults that are appropriate for projects larger than 35 acres, future development allowed under the proposed project was modeled as four smaller projects (phases) each with 25 percent of the total development constructed under each project phase. Breaking development allowed under the proposed project into four phases reduces the modeling phases to a size where defaults provided by CalEEMod are accurate. Additionally, the construction of individual projects would likely occur in different areas of the project area at different times as opposed to at once over the entire area. The configuration of the four phases

offers a more realistic representation of future development plans and is more consistent with CalEEMod default values.

Project-specific assumptions and default CalEEMod settings used to estimate emissions can be found in the CalEEMod outputs included in **Appendix C1-1**. Estimated maximum daily and annual construction-related emissions of criteria air pollutants are then compared to SMAQMD's applicable regional significance thresholds to determine the significance of impacts.

Health-based Effects of Ozone

Given that ground-level ozone formation occurs through a complex photo-chemical reaction between NO_X and VOCs in the atmosphere with the presence of sunlight, the impacts of ozone are typically considered on a basin-wide or regional basis instead of a localized basis. The SMAQMD has not established a significance threshold for ozone. The health-based ambient air quality standards for ozone are as concentrations of ozone and not as the mass weight (e.g., pounds) of their precursor pollutants (i.e., NO_X and VOCs). It is not necessarily the pounds of precursor pollutants that causes human health effects, but the concentration of resulting ozone or particulate matter. Meteorology, the availability of ozone precursors, the presence of sunlight, seasonal impacts, and other complex chemical factors all combine to determine the ultimate concentration and location of ozone.[13,14] Nonetheless, since project emissions would potentially exceed the SMAQMD threshold for NO_X emissions, it is possible that project NO_X emissions could result in an increase in ground-level ozone concentrations in proximity to the project area or elsewhere in the air basin, and impacts would be significant. Therefore, mitigation measures would be required and are further discussed below.

Similar to the thresholds described in the *amicus curiae* brief in *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502 (*Friant Ranch*),[15,16] the CEQA criteria pollutant significance thresholds from the SMAQMD were set at emissions levels tied to the region's attainment status. They are emissions levels at which stationary pollution sources permitted by the SMAQMD must offset their emissions, and the CEQA evaluation of the project must identify any feasible mitigation measures. They are not intended to be indicative of any localized human health impact that a project may have. Therefore, the project's exceedance of the mass regional emissions threshold (i.e., pounds per day [ppd] NOx thresholds) from project-related activities does not necessarily

13 South Coast Air Quality Management District. 2014. Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and Brief of Amicus Curiae. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno.

14 San Joaquin Valley Unified Air Pollution Control District. 2014. Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party in Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno.

15 South Coast Air Quality Management District. 2014. Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and Brief of Amicus Curiae. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno.

16 San Joaquin Valley Unified Air Pollution Control District. 2014. Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party in Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno.

indicate that the project would cause or contribute to the exposure of sensitive receptors to ground-level concentrations in excess of health-protective levels.

Although the SMAQMD has not established significance thresholds for ozone, in October 2020, the SMAQMD published its *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District* (Friant Ranch Guidance). The Friant Ranch Guidance recommends that lead agencies use the Minor Project Health Effects Screening Tool to conservatively estimate health effects from projects whose emissions would not exceed the maximum thresholds of significance established by the SMAQMD and other nearby air districts.[17] For projects that exceed the maximum thresholds of significance, the Friant Ranch Guidance recommends that the lead agencies use the Strategic Area Project Health Screening Tool. As discussed under Impact 4.2-2, after mitigation, the proposed project would not exceed the significance thresholds for construction; however, as discussed under Impact 4.2-3, the proposed project would exceed the significance thresholds for operations. Therefore, to determine ozone-related health impacts that could result from the proposed project, the SMAQMD Minor Project Health Effects Screening Tool was used to evaluate construction impacts, and the SMAQMD Strategic Area Project Health Screening Tool was used to evaluate operations impacts. Within the SMAQMD Strategic Area Project Health Screening Tool, SMAQMD provided six potential strategic area project locations (6-Air-District Region) for use in the health effects screening modeling. The guidance allows for the tool to be used outside of the strategic areas by providing a conservative (i.e., upper bound) estimate of health effects when the South Sacramento strategic area source is used as a surrogate location. Therefore, the South Sacramento Strategic Area was used as proxy location for the proposed project.

Construction Health Risk

A health risk assessment (HRA) was completed to evaluate the risks to nearby existing receptors (i.e., residents) from exposure to TACs associated with the proposed project. The HRA focused on construction activities associated with the development of the project area, which is considered a new but temporary source.

Consistent with SMAQMD guidelines, the analysis estimates the potential incremental lifetime cancer risks and chronic health hazards to sensitive receptors, primarily residences, located in the vicinity of the project area. Results are reported separately for risks from the construction of the CNU Medical Center and the rest of the project area at the maximally exposed residential receptor. In addition, the combined health risks from exposure to construction emissions from both are also estimated and reported.

For construction activities, DPM exposure represents the primary health hazard. Again, DPM is a complex mixture of chemicals and particulate matter identified by the state as a TAC with potential cancer and chronic non-cancer effects. DPM emissions would be generated by the operation of off-road construction equipment (e.g., excavators, loaders, cranes, graders) and on-road diesel-fired heavy-duty vehicles. Although other exposure pathways exist (i.e., ingestion,

[17] SMAQMD. 2020. *Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District.* October 2020. Available at: http://www.airquality.org/LandUseTransportation/Documents/SMAQMDFriantRanchFinalOct2020.pdf. Accessed August 31, 2021.

dermal contact), the inhalation pathway is the dominant exposure pathway from DPM for both cancer risk and chronic non-cancer health effects. Consequently, the HRA only evaluated the inhalation cancer and chronic non-cancer effects of DPM inhalation. A three-step process was used to estimate the incremental lifetime cancer risks and chronic health hazards of DPM exposure.

The first step involved using CalEEMod to estimate average annual diesel exhaust emissions during construction under the proposed Innovation Park PUD and CNU Medical Center. The CNU Medical Center was modeled as three phases over a construction period of approximately ten years. As described above, the remaining development proposed in the Innovation Park PUD was modeled as four phases in order to utilize CalEEMod modeling default values in a manner consistent with their design. DPM emissions generated by the four CalEEMod runs were totaled and averaged over the Innovation Park PUD development period of 16 years to generate an average annual DPM emission rate.

The second step involved using the USEPA's AERMOD (version 21112) dispersion model to convert construction DPM emissions derived from CalEEMod to maximum annual DPM concentrations. The dispersion modeling used the average annual DPM emissions in the first step, sensitive receptor grids covering all receptors within 1,000 feet of the project area boundary, construction areas represented as emission sources, and meteorological data collected from SMAQMD's Tools: Models, Calculators & Data Files for Sacramento International Airport.[18] For the proposed project, two sources were included in the dispersion modeling:

- A conservative representation of the on-site construction equipment on the CNU Medical Center site was modeled as a polygon area source with an internal vertical dimension of 1.4 meters and release height of 5 meters.[19]
- A conservative representation of the on-site construction equipment associated with the remaining project area was modeled as a polygon area source with an internal vertical dimension of 1.4 meters and release height of 5 meters.[20]

The above sources were modeled with a nominal emission rate of 1 gram per second to determine the impacts from DPM emissions occurring at a sensitive receptor within a 1,000-foot radius. The maximum impact or maximum exposed individual (MEI) was determined, and the annual PM_{10} concentration resulting from the model was applied to the yearly DPM averages determined with CalEEMod to represent the "worst-case" exposure scenario. All residential apartment complexes and neighborhoods plus childcare centers and schools within a 1,000-foot radius of the project area were modeled in AERMOD. Modeling inputs and assumptions of AERMOD can be found in Appendix C2.

[18] Sacramento Metropolitan Air Quality Management District. 2019. Tools: Models, Calculators & Data Files - AERMOD meteorological data files. Available: http://www.airquality.org/businesses/ceqa-land-use-planning/ceqa-guidance-tools. Accessed November 19, 2019.

[19] Bay Area Air Quality Management District, San Francisco Department of Public Health, and San Francisco Planning Department. 2012. The San Francisco Community Risk Reduction Plan: Technical Support Documentation December 2012.

[20] Bay Area Air Quality Management District, San Francisco Department of Public Health, and San Francisco Planning Department. 2012. The San Francisco Community Risk Reduction Plan: Technical Support Documentation December 2012.

The final step was to apply the DPM concentration calculated at the MEI for each construction year to the Office of Environmental Health Hazard Assessment (OEHHA) unit risk methodologies[21] to calculate the potential cancer risk from the proposed project construction activities over the construction duration. OEHHA equations and the health impact calculations are detailed in Appendix C3.

New receptors, including residents, schools, and daycares, introduced to the project area during the earlier stages of development would be exposed to DPM emissions from construction activities associated with the later phases of development. Their exposure duration to these emissions would be less than 16 years. Additionally, new on-site sensitive receptors within the Innovation Park PUD would be constructed with a MERV of 13 air filtration system. An air filter's MERV rating measures how effectively the filter stops dust and other contaminants from passing through the filter and into the air stream. The MERV13 filters would reduce DPM exposure with a particle removal efficiency of 80 to 90 percent; therefore, new on-site sensitive receptors' potential exposure to construction TACs would be minimal.

The new hospital in the proposed CNU Medical Center would have hospital receptors, which are classified as sensitive receptors. However, health risks from the proposed project construction to hospital receptors would be less than those to residential receptors as their exposure duration would only be a fraction of the exposure duration of residential receptors. Further, hospitals are equipped with filtration systems with MERV13, at minimum, with surgical operating rooms, clean rooms, and other contexts that require absolute cleanliness equipped with MERV17 through MERV20 (i.e., higher efficiency filtration systems). Therefore, new hospital sensitive receptors' potential exposure to construction TACs would be minimal.

Operational Impacts

Operation of development allowed under the proposed project, including the CNU Medical Center, would increase emissions of O_3 precursors (ROG and NO_X), PM_{10}, and $PM_{2.5}$, from vehicle trips, stationary sources (e.g., laboratory fume hoods, boilers, and emergency generators), and area sources (e.g., landscape maintenance and consumer products such as cleaning products). Emergency operations at the helistop proposed at the CNU Medical Center would also generate emissions. Operational emissions for buildout of the proposed project, including emergency generator stationary sources, were estimated using CalEEMod based on the proposed land uses, trip generation rates, and VMT developed for the proposed project. The modeling conservatively used a mixture of single-family, multi-family, and condominiums to represent the residential component of the development scenario analyzed in the EIR. Proposed commercial uses were represented as a mix of commercial, retail, and office space consistent with assumptions in the traffic section for the generation of project-specific trip generation rates. The CNU Medical Center was modelled with hospital, laboratory, educational, administrative, and residential uses. Default trip generation rates and trip lengths in CalEEMod were adjusted to reflect project-specific traffic data. Estimated operational emissions are compared to the appropriate SMAQMD

[21] Office of Environmental Health Hazard Assessment. 2015. Air Toxics Hot Spots Program – Risk Assessment Guidelines, February 2015.

significance thresholds for operation. Modeling output and related details are documented in **Appendix C1-2**.

The operational air quality impacts from the proposed helistop at the CNU Medical Center were calculated using the Federal Aviation Administration's (FAA) Aviation Environmental Design Tool (AEDT), Version 3d. AEDT is a modeling tool that calculates noise, fuel burn, and emissions associated with aviation operations and is the FAA's approved model for calculating environmental impacts. AEDT was used to estimate the emissions of the criteria air pollutants, applicable GHGs, and fuel burned by the helicopters during operation within the SVAB.

A single AEDT helicopter type was used to simulate the helicopters in use at the helistop, and two different scenarios were assessed: Phase 1 Buildout and Full Buildout. The chosen helicopter that was modeled, as discussed in Section 4.8, was Airbus H-130, which was selected to provide a conservative estimate under the noise analysis, however other helicopter types (e.g., H-135 and H-145) would have similar air quality emissions. Under the Phase 1 Buildout scenario, there would be four arrivals and four departures per month. Under the Full Buildout scenario, there would be six arrivals and six departures per month. A modified climb and descend rate was used for the helicopters to simulate the slower rates expected by hospital helicopters while carrying passengers. The flight paths of the helicopters are generally expected to follow Interstate 5 both north and south leaving this path only for final approach or initial departure from the helistop. For details on the AEDT modeling parameters, a detailed description can be found in Appendix G.

The criteria air pollutants emitted below the mixing height (default height of 3,000 meters) are typically considered in the air quality analysis, and the emissions that occur above the mixing height are excluded as they would be transported either regionally or globally and thus would not have an impact on local air quality. The profile for the helicopter used for the analysis has a maximum height of 1,200 feet, which makes all flight emissions below the default mixing height and therefore included in the emissions estimates. For the purposes of these calculations, the helicopter flight length is assumed to be 40 miles, the maximum distance from the helistop to the border of the SMAQMD jurisdiction. This value conservatively represents the maximum helicopter emissions that would occur within the SMAQMD. Analysis and mitigation of operational impacts follow SMAQMD's guidance as detailed in *Recommended Guidance for Land Use Emission Reductions for Operational Emissions, Version 4*.[22]

Operational Health Risk

Emissions of TACs during operation of development allowed under the Innovation Park PUD would be primarily from idling diesel trucks and the operation of emergency generators. These impacts are addressed qualitatively as they would generally be regulated by existing SMAQMD regulations and CARB idling restrictions, and the emissions would be much lower than those generated during construction.

[22] Sacramento Metropolitan Air Quality Management District (SMAQMD). 2017. Recommended Guidance for Land Use Emission Reductions, version 4 (for Operational Emissions). November 30, 2017.

Issues or Potential Impacts Not Discussed Further

Due to the designation of the SVAB as an attainment/maintenance area with respect to the CO standards, SMAQMD no longer requires modeling of project CO emissions for comparison with the ambient air quality standard. According to SMAQMD guidance, in general, land use development projects do not typically have the potential to result in localized concentrations of criteria air pollutants including CO that expose sensitive receptors to substantial pollutant concentrations. This is because these emissions are predominantly generated in the form of mobile-source exhaust from vehicle trips associated with the land use development project that occur throughout a paved network of roads. Associated exhaust emissions therefore are not generated in a single location where high concentrations could be formed.[23] Therefore, CO impacts that could occur under the proposed project, including the CNU Medical Center, would be less than significant and are therefore not discussed further in this section.

An odor analysis typically evaluates the potential for a project to generate odors and for the project to be affected by odors from nearby sources. Examples of common land use types that typically generate significant odor impacts include: wastewater treatment plants, sanitary landfills, composting/green waste facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting/coating operations, rendering plants, and food packaging plants. General land uses to be developed under the proposed project, including the CNU Medical Center, are not considered significant sources of odors. Therefore, odors are not addressed further in this EIR.

Impacts and Mitigation Measures

Impact 4.2-1: Implementation of the proposed project could conflict with or obstruct implementation of the applicable air quality plan.

The *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (*2013 SIP Revisions*), which addresses attainment of the federal eight-hour ozone standard, and the *2014 Triennial Report and Plan Revision*, are the current plans required by USEPA and CARB and issued by SMAQMD to meet attainment. These plans need to demonstrate reasonable progress toward attainment as required by the SIP and CCAA. Compliance with these plans is demonstrated through appropriate analysis that incorporates land use assumptions and regional travel demand modeling from the Sacramento Area Council of Governments (SACOG). To determine compliance with the applicable air quality plan, SMAQMD recommends a comparison of the projected VMT and population growth rate of the proposed project to the SACOG growth projections included in the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS).[24]

SACOG is required to consider adopted local land use plans, including the General Plan, in the formulation of the land use forecast and growth projections MTP/SCS. The project area is currently designated for development as Urban Center High in the 2035 General Plan. Development assumptions, including population growth and VMT increase according to this designation, are included in the SACOG projections that form the basis of current air quality

[23] Sacramento Metropolitan Air Quality Management District. 2009. *Guide to Air Quality Assessment*. Adopted December 2009 and last updated July 2019. Page 4-7.

[24] Sacramento Area Council of Governments. 2019. *Metropolitan Transportation Plan/Sustainable Communities Strategy*. Adopted November 18, 2019.

planning for the region. As proposed, the project area would be re-designated to Urban Center Low, and the reduced intensity of development associated with the new land use designation including population and VMT growth assumptions would be lower than what was assumed in the General Plan and the regional air quality plan. Therefore, the proposed project would not exceed the growth projections provided in the 2035 General Plan, growth projections assumed by SACOG, and thereby would not exceed the growth projections provided in the 2020 MTP/SCS. This would be a **less-than-significant** impact.

Mitigation Measure

None required.

Impact 4.2-2: Construction activities associated with development under the proposed project could result in a short-term emissions increase of NO_x, PM_{10}, and $PM_{2.5}$, for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

Construction-related emissions, although short-term in duration, can represent a significant adverse impact on air quality. Construction pursuant to the proposed project, would consist of demolition (potentially implosion), site grading, excavation for infrastructure and building foundations, building construction, and paving and landscaping installation. The development scenario modeled for analysis in the EIR includes demolition of the Sleep Train Arena and support facilities under conventional (non-implosion) conditions, construction of the CNU Medical Center on a 35-acre southwest parcel in the project area, and a mix of residential and commercial space on the remaining parcels of the 183-acre project area over a period of 16 years, with construction commencing in 2022. The CNU Medical Center construction would start in 2022 and be completed in phases through 2032, with the first phase comprising of the construction of the hospital, central plant, and associated parking. Construction of individual residential and commercial projects in other parts of the PUD would be built as dictated by market conditions.

Construction activities have the potential to create air quality impacts through the use of heavy-duty construction equipment, construction worker vehicle trips, truck hauling trips, and vendor truck trips. In addition, fugitive dust emissions would result from site disturbance activities such as grading and excavation and vehicle travel on unpaved roads. Fugitive ROG emissions would result from the application of architectural coatings and paving. Mobile equipment such as excavators, graders, backhoes, loaders, pile-driving rigs, crushing equipment, pavers, water trucks, and forklifts would be used for demolition, geotechnical work, excavation, and grading, as well as for building construction and hardscape and landscape materials installation. Track/tire-mounted cranes and tower cranes would be used for building construction, including but not limited to steel and precast erection and building façades. Miscellaneous stationary equipment would include generators and air compressors, saw cutters, cutting/chopping saws, tile saws, stud impact guns, welding machines, and concrete boom pumps. Additionally, construction of some buildings, including the proposed hospital, may require the installation of support piles.

Construction Emissions of Nitrogen Oxides and Small Particulate Matter

Construction emissions were estimated for the proposed project using the methods contained in SMAQMD's *Guide to Air Quality Assessment in Sacramento County.*[25] The CalEEMod model was used to quantify construction NO_X, PM_{10}, and $PM_{2.5}$ emissions from off-road equipment, haul trucks associated with demolition and imported soils, on-road worker vehicle emissions, and vendor delivery trips. The SMAQMD does not have significance thresholds for construction ROG emissions. The unmitigated maximum daily construction emissions of NO_x, PM_{10} and $PM_{2.5}$ and the maximum annual emissions of PM_{10} and $PM_{2.5}$ are presented in **Tables 4.2-5, 4.2-6, and 4.2-7**. The tables also compare estimated emissions to SMAQMD's NO_X, PM_{10}, and $PM_{2.5}$ construction thresholds.

As shown in Tables 4.2-5, 4.2-6, and 4.2-7, the maximum daily construction NO_X emissions would exceed the SMAQMD significance threshold. PM_{10}, and $PM_{2.5}$ emissions would also exceed the SMAQMD significance thresholds as compared to a zero increase threshold prior to application of SMAQMD recommended control measures. Overall, the proposed project, including the CNU Medical Center, would have a **significant impact** related to construction emissions from NOx, PM_{10}, and $PM_{2.5}$.

TABLE 4.2-5
UNMITIGATED CONSTRUCTION EMISSIONS—CNU MEDICAL CENTER

Construction Year	Maximum Daily Emissions (pounds per day)			Annual Emissions (tons per year)	
	NO_X	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
2022	**119**	**33**	**16**	**1.8**	**0.8**
2023	**103**	**33**	**15**	**1.3**	**0.5**
2024	72	**30**	**15**	**1.3**	**0.5**
2025	55	**11**	**4**	**0.5**	**0.2**
2026	13	**1**	**1**	**<0.1**	**<0.1**
2027	46	**22**	**12**	**0.4**	**0.2**
2028	80	**26**	**14**	**0.9**	**0.5**
2029	**91**	**34**	**18**	**0.9**	**0.5**
2030	35	**23**	**11**	**0.5**	**0.2**
2031	44	**31**	**15**	**0.7**	**0.3**
2032	18	**2**	**1**	**0.1**	**0.1**
Maximum[1,2]	**119**	**34**	**18**	**1.8**	**0.8**
SMAQMD Thresholds[3]	85	0	0	0	0
Significant (Yes or No)?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

NOTES:
1 Project construction emissions estimates were made using CalEEMod version 2020.4.0. See Appendix C1-a for model outputs and more detailed assumptions.
2 Values in **bold** are in excess of the applicable SMAQMD significance threshold.
3 SMAQMD has established a zero emissions threshold for PM_{10} and $PM_{2.5}$ when projects do not implement their BMPs.

SOURCE: Prepared by Environmental Science Associates, 2021.

25 Sacramento Metropolitan Air Quality Management District. 2009. *Guide to Air Qua1ity Assessment*. Adopted December 2009 and last updated July 2019.

TABLE 4.2-6
UNMITIGATED CONSTRUCTION EMISSIONS—INNOVATION PARK PUD WITHOUT CNU MEDICAL CENTER

Construction Year	Maximum Daily Emissions (pounds per day)			Annual Emissions (tons per year)	
	NO_X	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
2022	**86**	**24**	**13**	**1.2**	**0.5**
2023	75	**14**	**6**	**1.1**	**0.4**
2024	24	**8**	**3**	**1.0**	**0.3**
2025	23	**8**	**3**	**1.0**	**0.3**
2026	65	**19**	**11**	**0.9**	**0.4**
2027	64	**13**	**6**	**1.1**	**0.4**
2028	22	**8**	**3**	**1.0**	**0.3**
2029	22	**8**	**3**	**1.0**	**0.3**
2030	48	**19**	**10**	**0.9**	**0.4**
2031	47	**13**	**6**	**1.0**	**0.3**
2032	17	**7**	**2**	**0.9**	**0.3**
2033	17	**7**	**2**	**0.9**	**0.3**
2034	46	**19**	**10**	**0.9**	**0.4**
2035	41	**12**	**5**	**1.0**	**0.3**
2036	16	**7**	**2**	**0.9**	**0.3**
2037	16	**7**	**2**	**0.9**	**0.3**
2038	16	**7**	**2**	**0.1**	**<0.1**
Maximum[1,2]	**86**	**24**	**13**	**3.0**	**1.4**
SMAQMD Thresholds[3]	85	0	0	0	0
Significant (Yes or No)?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

NOTES:

1 Project construction emissions estimates were made using CalEEMod version 2020.4.0. See Appendix C1-a for model outputs and more detailed assumptions.

2 Values in **bold** are in excess of the applicable SMAQMD significance threshold.

3 SMAQMD has established a zero emissions threshold for PM_{10} and $PM_{2.5}$ when projects do not implement their BMPs.

SOURCE: Prepared by Environmental Science Associates, 2021.

TABLE 4.2-7
UNMITIGATED CONSTRUCTION EMISSIONS—INNOVATION PARK PUD WITH CNU MEDICAL CENTER

Construction Year	Maximum Daily Emissions (pounds per day)			Annual Emissions (tons per year)	
	NO_X	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
2022	**147**	**37**	**17**	**3.0**	**1.4**
2023	**128**	**41**	**18**	**2.4**	**0.9**
2024	**96**	**38**	**17**	**2.3**	**0.9**
2025	78	**19**	**7**	**1.5**	**0.5**
2026	65	**19**	**11**	**0.9**	**0.4**
2027	69	**30**	**14**	**1.5**	**0.6**
2028	**102**	**33**	**16**	**1.9**	**0.8**
2029	**113**	**42**	**20**	**1.9**	**0.8**
2030	65	**28**	**15**	**1.4**	**0.6**
2031	65	**38**	**17**	**1.7**	**0.6**
2032	35	**10**	**3**	**1.1**	**0.3**
2033	17	**7**	**2**	**0.9**	**0.3**
2034	46	**19**	**10**	**0.9**	**0.4**
2035	41	**12**	**5**	**1.0**	**0.3**
2036	16	**7**	**2**	**0.9**	**0.3**
2037	16	**7**	**2**	**0.9**	**0.3**
2038	16	**7**	**2**	**0.1**	**<0.1**
Maximum[1,2]	**147**	**42**	**20**	**3.0**	**1.4**
SMAQMD Thresholds[3]	85	0	0	0	0
Significant (Yes or No)?	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

NOTES:
1 Project construction emissions estimates were made using CalEEMod version 2020.4.0. See Appendix C1-a for model outputs and more detailed assumptions.
2 Values in **bold** are in excess of the applicable SMAQMD significance threshold.
3 SMAQMD has established a zero emissions threshold for PM_{10} and $PM_{2.5}$ when projects do not implement their BMPs.

SOURCE: Prepared by Environmental Science Associates, 2021.

Required mitigation measures for the construction activities that would occur under the proposed project, including the CNU Medical Center, are detailed below and include implementing BMPs, idling restrictions and engine maintenance requirements, use of low emissions engines (i.e., Tier 4 Final), enhanced fugitive dust control practices, and off-site mitigation; see Mitigation Measures 4.2-2(a) through 4.2-2(e).

Mitigated maximum daily construction emissions are shown in **Tables 4.2-8, 4.2-9, and 4.2-10** assuming all construction equipment used for construction activities would use engines that meet USEPA's Tier 4 Final standards (as required in Mitigation Measure 4.2-2(c) below). Mitigated PM emissions are compared to SMAQMD's non-zero emissions thresholds.

TABLE 4.2-8
MITIGATED CONSTRUCTION EMISSIONS—CNU MEDICAL CENTER

Construction Year	Maximum Daily Emissions (pounds per day)			Annual Emissions (tons per year)	
	NO_X	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
2022	61	20	8	1.0	0.4
2023	15	20	8	0.9	0.3
2024	15	17	7	1.1	0.3
2025	4	10	3	0.4	0.1
2026	1	<1	<1	<0.1	<0.1
2027	12	10	5	0.2	0.1
2028	14	12	6	0.5	0.2
2029	18	16	7	0.5	0.2
2030	11	12	6	0.4	0.2
2031	15	15	7	0.5	0.2
2032	1	2	1	0.1	<0.1
Maximum[1,2]	61	20	8	1.1	0.4
SMAQMD Thresholds[3]	85	80	82	14.6	15
Significant (Yes or No)?	No	No	No	No	No

NOTES:
1 Project construction emissions estimates were made using CalEEMod version 2020.4.0. See Appendix C1 for model outputs and more detailed assumptions.
2 Values in **bold** are in excess of the applicable SMAQMD significance threshold.
3 SMAQMD's non-zero emissions thresholds for PM_{10} and $PM_{2.5}$ to compare project's mitigated emissions.

SOURCE: Prepared by Environmental Science Associates, 2021.

TABLE 4.2-9
MITIGATED CONSTRUCTION EMISSIONS—INNOVATION PARK PUD WITHOUT CNU MEDICAL CENTER

Construction Year	Maximum Daily Emissions (pounds per day)			Annual Emissions (tons per year)	
	NO_X	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
2022	50	10	5	0.6	0.2
2023	44	8	3	1.0	0.3
2024	13	7	2	0.9	0.3
2025	13	7	2	0.9	0.3
2026	41	8	5	0.5	0.2
2027	40	8	3	1.0	0.3
2028	12	7	2	0.9	0.3
2029	12	7	2	0.9	0.3
2030	37	8	5	0.5	0.2
2031	37	8	3	1.0	0.3
2032	11	7	2	0.9	0.3
2033	11	7	2	0.9	0.3
2034	35	8	5	0.5	0.2
2035	35	8	3	1.0	0.3
2036	11	7	2	0.9	0.3
2037	11	7	2	0.9	0.3
2038	11	7	2	0.1	<0.1
Maximum[1,2]	50	10	5	1.0	0.3
SMAQMD Thresholds[3]	85	80	82	14.6	15
Significant (Yes or No)?	No	No	No	No	No

NOTES:
1 Project construction emissions estimates were made using CalEEMod version 2020.4.0. See Appendix C1 for model outputs and more detailed assumptions.
2 Values in **bold** are in excess of the applicable SMAQMD significance threshold.
3 SMAQMD's non-zero emissions thresholds for PM_{10} and $PM_{2.5}$ to compare project's mitigated emissions.

SOURCE: Prepared by Environmental Science Associates, 2021.

TABLE 4.2-10
MITIGATED CONSTRUCTION EMISSIONS—INNOVATION PARK PUD WITH CNU MEDICAL CENTER

Construction Year	Maximum Daily Emissions (pounds per day)			Annual Emissions (tons per year)	
	NO_X	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
2022	79	21	8	1.6	0.6
2023	78	27	10	1.9	0.6
2024	38	24	9	2.0	0.6
2025	37	17	5	1.4	0.4
2026	41	8	5	0.5	0.2
2027	40	17	7	1.2	0.4
2028	30	20	8	1.4	0.4
2029	32	23	9	1.4	0.5
2030	51	14	7	1.0	0.4
2031	51	23	9	1.4	0.5
2032	18	9	3	1.1	0.3
2033	11	7	2	0.9	0.3
2034	35	8	5	0.5	0.2
2035	35	8	3	1.0	0.3
2036	11	7	2	0.9	0.3
2037	11	7	2	0.9	0.3
2038	11	7	2	0.1	<0.1
Maximum[1,2]	79	27	10	2.0	0.6
SMAQMD Thresholds[3]	85	80	82	14.6	15
Significant (Yes or No)?	No	No	No	No	No

NOTES:
1 Project construction emissions estimates were made using CalEEMod version 2020.4.0. See Appendix C1 for model outputs and more detailed assumptions.
2 Values in **bold** are in excess of the applicable SMAQMD significance threshold.
3 SMAQMD's non-zero emissions thresholds for PM_{10} and $PM_{2.5}$ to compare project's mitigated emissions.

SOURCE: Prepared by Environmental Science Associates, 2021.

Ozone-Related Health Risks

To determine ozone-related health risk that would result from the project, the location of the project area was input into the SMAQMD Minor Project Health Effects Screening Tool. The screening tool uses the emissions significance thresholds in order to determine health impacts. SMAQMD does not have a separate established threshold for ozone-relate heath risk and only requires the results be reported and a qualitative discussion on how the health effects tool provides an average estimate across all populations be provided. Since mitigated emissions associated with the proposed project would be below the NO_x thresholds of significance, it can be assumed that the ozone-related health effects associated with the proposed project would be less than the health risk estimated by the screening tool. Ozone-related health effects estimated using the Minor Project Health Effects Screening Tool are summarized in **Table 4.2-11**, below.

TABLE 4.2-11
OZONE-RELATED HEALTH RISKS

Ozone Health Endpoint	Age Range[1]	Average Incidences (per year)[2]	Percent of Background Health Incidence[3]
Hospital Admissions (all respiratory)	65–99	0.27	0.0011%
Emergency Room Visits, Asthma	0–17	1.9	0.028%
Emergency Room Visits, Asthma	18–99	1.9	0.013%
Mortality, Non-Accidental	0–99	0.17	0.00048%

NOTES:

1 Affected age ranges are shown. Other age ranges are available, but the endpoints and age ranges shown here are the ones used by the USEPA in its health assessments. The age ranges are consistent with the epidemiological study that is the basis of the health function.

2 Health effects are shown in terms of incidences of each health endpoint and how it compares to the base (2035 base year health effect incidences, or "background health incidence") values. Health effects and background health incidences are across Northern California model domain.

3 The percent of background health incidence uses the mean incidence. The background health incidence is an estimate of the average number of people that are affected by the health endpoint in a given population over a given period of time. In this case, these background incidence rates cover the modeled domain. Health incidence rates and other health data are typically collected by the government as well as the World Health Organization. The background incidence rates used here are obtained from BenMAP.

SOURCE: SMAQMD. 2020. Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District. October 2020.

As shown in Table 4.2-11, the contribution of the proposed project to ozone-related health impacts is minuscule compared to the background ozone-related health risk. Furthermore, the ozone-related health risk estimated by the screening tool is a conservative estimate. Given that the proposed project would result in emissions lower than the emissions assumed by the screening tool, it is likely that the ozone-related health risk associated with the proposed project would be less than the risk estimated by the SMAQMD Minor Project Health Effect Screening Tool. Therefore, ozone-related health risk impacts from the Innovation Park PUD construction activities would be **less than significant**, and no mitigation is required.

Emissions from Arena Demolition

Implosion

The existing Sleep Train Arena will be removed from the site prior to construction of the CNU Medical Center. Implosion of the existing Sleep Train Arena on the site is being considered as an option to conventional demolition. Implosion is a process of controlled demolition of structures and buildings, where explosive material is strategically placed within the structure and detonation is timed such that the structure collapses onto itself in a matter of seconds, minimizing the physical damage to its immediate surroundings. The primary advantage of implosion is that it reduces to a few seconds a demolition process that could otherwise take weeks or months to achieve by other methods, thereby reducing the duration and concomitant emissions impacts associated with demolition activities. While air pollutant emissions generated from the explosions themselves are minimal, the collapse of the structure following the detonation of explosives creates an immediate, intense, and short-lived plume of dust as the structure falls to the ground. Implosions would typically be carefully planned and managed to ensure that the structure collapses onto its own footprint, thereby reducing impacts on the surrounding area. Upon

completion of implosion, a pile of rubble is left behind on the footprint of the structure, which is hauled away as with conventional demolition.

Air quality impacts, primarily from fugitive dust suspended in the air upon collapse of the structure, could result in increased PM_{10} concentrations in the surrounding area, primarily downwind of the project area, and increase exposure to sensitive receptors. The predominate wind direction (i.e., blowing from) is south-southwest. It is not possible to precisely quantify the amount of emissions generated by implosion at this point. The best way to minimize impacts on workers and receptors primarily would be by maintaining an adequate exclusion zone around the arena and following BMPs for control of fugitive dust, including wetting of surfaces. Due to the location of the arena in the center of the project area, the surrounding parking areas provide a minimum separation of 1,000 feet from the nearest sensitive receptors to the west and south, which would reduce exposure to existing receptors.

Based on air quality studies conducted in response to community concerns over imploding a 22-story building in Baltimore,[26] time- and space-resolved concentrations of indoor and outdoor PM (nominally 0.5–10 micron) concentrations were measured. While no measurable effects were observed upwind of the implosion, the downwind peak PM_{10} levels varied with distance, exceeding pre-implosion levels for monitoring sites at 100 meters and 1,130 meters by 3,000- and 20-fold, respectively. As expected, sites nearest to the implosion experienced more dramatic and earlier peak effects when compared to sites farther away. However, the peak effects were found to be short-lived, lasting only 15–20 minutes. Estimated outdoor 24-hour integrated mass concentrations varied from 15 to 72 $\mu g/m^3$. For comparison, the current state and federal PM_{10} 24-hour standards are 50 and 150 $\mu g/m^3$, respectively. PM_{10} concentrations resulting from implosion depend on various factors including the size/mass of the structure being imploded, meteorology and wind conditions during implosion, and the extent to which BMPs are employed to reduce dust. As a result, while it is not possible to extrapolate the results of the Baltimore implosion to the implosion of the arena, it provides anecdotal evidence on the levels of PM_{10} concentrations downwind of the implosion site.

In addition to affecting PM_{10} concentrations, any lead or asbestos contained in the structure could potentially be suspended in the air, leading to health risk impacts.

Although a precise quantification of emissions from implosion of the arena is not feasible, based on the example data from the implosion of the structure in Baltimore, which showed that without mitigation downwind concentrations of PM_{10} following the implosion exceeded the NAAQS for PM_{10}, this impact would be **significant**.

[26] Beck, Christopher M., et al. "The Impact of a Building Implosion on Airborne Particulate Matter in an Urban Community." *Journal of the Air & Waste Management Association (1995)*, U.S. National Library of Medicine, Oct. 2003, www.ncbi.nlm.nih.gov/pubmed/14604336.

Mitigation Measures

Mitigation Measure 4.2-2(a) (PUD, CNU): Implement SMAQMD Basic Construction Emissions Control Practices.

SMAQMD considers the following Basic Construction Emissions Control Practices feasible for controlling fugitive dust from a construction site. The practices also serve as BMPs that can be incorporated as part of individual projects proposed under the proposed project, allowing the use of the non-zero particulate matter significance thresholds. These emissions control practices shall be included either as Conditions of Approval (COA) or in a Mitigation Monitoring and Reporting Program (MMRP) to require implementation during project construction:

1. Control of fugitive dust is required by District Rule 403 and enforced by District staff.
2. Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to, soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
3. Cover or maintain at least 2 feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
4. Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
5. Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
6. All roadways, driveways, sidewalks, and parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading, unless seeding or soil binders are used.

Mitigation Measure 4.2-2(b) (PUD, CNU): Implement SMAQMD Exhaust Control Practices.

Applicants for individual projects constructed under the proposed project shall require construction contractors to implement the following SMAQMD Exhaust Control Practices for diesel-powered fleets working at construction sites:

1. Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to two minutes [California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
2. Provide current certificate(s) of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1].
3. Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.

Mitigation Measure 4.2-2(c) (PUD, CNU): Implement Measures to Ensure the Use of Low-Emission Construction Equipment.

The following measures related to the use of low-emission construction equipment shall be implemented for individual projects constructed under the Innovation Park PUD, including the CNU Medical Center:

1. Applicants for individual projects constructed under the Innovation Park PUD, including the CNU Medical Center, shall require construction contractors to provide a plan for approval by the SMAQMD that demonstrates that all heavy-duty off-road equipment used for construction activities shall be equipped with the most effective Verified Diesel Emissions Control Strategies (VDECS) available for the engine type. In this case, the best available VDECS would be implementation of Tier 4F engines as certified by CARB and USEPA. The equipment shall be properly maintained and tuned in accordance with manufacturers' specifications. This would be verified through an equipment inventory submittal and certification plan submitted to the SMAQMD.

2. The plan shall have two components: an initial report submitted before construction, and a final report submitted at the completion.

3. The initial report shall be submitted at least four business days prior to construction activity using the SMAQMD's Construction Mitigation Tool (available at http://www.airquality.org/businesses/ceqa-land-use-planning/mitigation) and shall provide project information and construction company information and include the equipment type, horsepower rating, engine model year, projected hours of use, and the CARB equipment identification number for each piece of equipment to be used. All owned, leased, and subcontracted equipment to be used shall be included. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.

4. The final report shall be submitted at the end of the job, phase, or calendar year, as pre-arranged with SMAQMD staff and documented in the approval letter, to demonstrate continued project compliance.

5. Emissions from all off-road diesel-powered equipment used within the project area shall not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately, and the City and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed, as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this measure shall supersede other SMAQMD or state rules or regulations.

6. If at the time of granting of each building permit, the SMAQMD has adopted a regulation applicable to construction emissions, compliance with the regulation may completely or partially replace this mitigation. Consultation with the SMAQMD prior to construction will be necessary to make this determination.

Mitigation Measure 4.2-2(d) (PUD, CNU): Implement SMAQMD Enhanced Fugitive Dust Control Practices.

City approval of any grading or improvement plans for individual projects proposed under the Innovation Park PUD (including the CNU Medical Center) shall include the following SMAQMD Enhanced Fugitive Dust Control Practices:

Soil Disturbance Areas

1. Water exposed soil with adequate frequency for continued moist soil. However, do not overwater to the extent that sediment flows off the site.
2. Suspend excavation, grading, and/or demolition activity when wind speeds exceed 20 mph.
3. Install wind breaks (e.g., plant trees, solid fencing) on windward side(s) of construction areas.
4. Plant vegetative ground cover (fast-germinating native grass seed) in disturbed areas as soon as possible. Water appropriately until vegetation is established.

Unpaved Roads (Entrained Road Dust)

1. Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site.
2. Treat site accesses to a distance of 100 feet from the paved road with a 6- to 12-inch layer of wood chips, mulch, or gravel to reduce the generation of road dust and road dust carryout onto public roads.
3. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The phone number of the District shall also be visible to ensure compliance.

Mitigation Measure 4.2-2(e) (PUD, CNU): Prepare and Implement Construction Air Quality Management Plan for Arena Implosion.

If implosion is chosen as the method of demolition for the arena, a Construction Air Quality Management Plan shall be submitted to SMAQMD which details the control measures that would be implemented to reduce impacts from implosion of the arena. The plan shall include but not be limited to the following measures:

1. Demarcation and maintenance of an adequate exclusion zone around the arena for as long as safety requirements warrant before and after the implosion. The extent of the exclusion zone shall be informed by a project-specific study that takes into account the noise, air quality, vibration, safety, and seismic impacts of the planned implosion based on the size of the arena and the amount of explosives used.
2. All land uses within the exclusion zone shall be notified in advance of the planned implosion, with reminders sent out a week before. Notifications shall include the date and time of the planned implosion, the extent of the exclusion zone, information on street closures, and the duration for which the exclusion zone and street closures will be maintained. Occupants of all land uses within the exclusion zone shall be advised

to stay indoors with HVAC systems, windows, and doors closed for the duration of the implosion.

3. The same information shall also be posted as signs around the project area boundary, along with the name and telephone number of a complaint coordinator to contact with questions and complaints.

4. Transportation and temporary relocation shall be provided to sensitive receptors located within 0.25 mile of the arena.

5. To prevent hazardous materials from getting airborne during demolition or debris removal, recyclable (plumbing and ventilation) and hazardous materials (asbestos and lead) shall be removed from the structure before implosion.

6. Implosion shall be timed with favorable meteorological conditions, such as light precipitation with winds in the direction of sparse population.

7. Adequately wet the structure before, during, and after the implosion to reduce suspended dust. Settled dust shall be suppressed with water and vacuum street cleaners.

8. Use barricades and berms at ground level to control debris and dust.

9. Use dust controlling misters and street sweepers during cleanup of the debris.

Significance After Mitigation: With the implementation of Mitigation Measure 4.2-2(c) that includes SMAQMD's Enhanced On-site Exhaust Controls by requiring Tier 4 engines in all construction equipment, maximum daily NO_x emissions would be reduced by approximately 52 percent when compared to unmitigated emissions and would not exceed SMAQMD's NO_x significance threshold of 85 pounds per day, as shown in Table 4.2-10. Implementation of SMAQMD recommended control measures for control of fugitive dust and exhaust listed under Mitigation Measures 4.2-2(a), 4.2-2(b), and 4.2-2(d) would allow use of SMAQMD's non-zero thresholds for particulate matter (PM_{10} and $PM_{2.5}$). PM_{10} and $PM_{2.5}$ emissions generated by development allowed under the proposed project with implementation of these mitigation measures would be below these thresholds during each construction year, as shown in Table 4.2-10.

As described above, implosion of the arena structure would generate airborne demolition debris that may include fine particles, including PM_{10}, $PM_{2.5}$, and airborne asbestos. Implementation of BMPs specific to the proposed project as required under Mitigation Measure 4.2-2(e) would reduce air quality impacts associated with implosion by instituting controls on airborne particulates to minimize their release. Thus, while the amount of particulates resulting from implosion of the arena structure cannot be quantified, implementation of Mitigation Measure 4.2-2(e) would ensure that the volume of airborne particulates would be substantially lessened to the extent feasible and would not be substantial. However, because the volume of airborne particulates generated by implosion activities and the effectiveness of mitigation measures cannot be accurately predicted, even with mitigation, the impact from implosion activities could be **significant and unavoidable**.

Impact 4.2-3: Operation of the development allowed under the proposed project (including the CNU Medical Center) could result in long-term emissions of NO_X, ROG, PM_{10}, and $PM_{2.5}$, for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

Long-term operational activities of development under the proposed project (including the proposed CNU Medical Center) would increase emissions from motor vehicle trips and on-site area and energy sources (e.g., natural gas combustion for space and water heating and CNU central utility plant, landscape maintenance, use of consumer products such as hairsprays, deodorants, and cleaning products).

CalEEMod was used to estimate operational emissions for buildout year 2038 using trip generation rates for the proposed project from the traffic report (see Draft EIR Section 4.10). As CalEEMod allows the selection of future years to be modeled in increments of five years, the year 2035 was selected to conservatively represent emissions from the PUD buildout year 2038. Actual emissions in 2038 would be lower than those estimated for 2035 as the fleet emission rate decreases with each passing year. Estimated daily operational emissions are presented in **Table 4.2-12**.

TABLE 4.2-12
INNOVATION PARK PUD OPERATIONAL EMISSIONS

Operational Source[1]	Maximum Daily Emissions (pounds per day)				Annual Emissions (tons per year)	
	ROG	NO_X	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Area	224	3	1	1	0.2	0.2
Energy	6	50	4	4	0.7	0.7
Mobile	135	92	195	53	34.3	9.3
Stationary	26	118	4	4	0.1	0.1
Helicopter	<1	1	<1	<1	<1	<1
Total[2]	**391**	**264**	**205**	**62**	**35.3**	**10.3**
SMAQMD Thresholds[3]	65	65	0	0	0	0
Significant (Yes or No)?	Yes	Yes	Yes	Yes	Yes	Yes

NOTES:
1 Project operational emissions estimates were made using CalEEMod version 2020.4.0. Project operational helicopter emissions were estimated with FAA AEDT 3d. See Appendix C1 for model outputs and more detailed assumptions.
2 Values in **bold** are in excess of the applicable SMAQMD significance threshold.
3 SMAQMD has established a zero emissions threshold for PM_{10} and $PM_{2.5}$ when project do not implement their BMPs.

SOURCE: Prepared by Environmental Science Associates, 2021.

Based on the estimates shown in Table 4.2-12, maximum daily emissions of ROG, NO_x, PM_{10}, and $PM_{2.5}$ emissions from development proposed under the proposed project (including the CNU Medical Center) would exceed SMAQMD significance thresholds. Thus, the operational emissions from development allowed under the proposed project at full buildout would be **significant**.

SMAQMD's guidance recommends that project applicants prepare an AQMP for all projects that exceed SMAQMD operational significance thresholds. As the operational emissions of NO_X,

ROG, and PM_{10} from development proposed under the proposed project are greater than the applicable SMAQMD significance thresholds identified above, an AQMP has been prepared for the proposed project, including the proposed CNU Medical Center, and included as Appendix C4.

The AQMP calculates a reduction target based on consistency with the current SIP. For projects included in the current SIP, the SMAQMD recommends a 15 percent reduction of NO_X and ROG mobile source emissions. For projects not considered in the SIP, the SMAQMD recommends a 35 percent reduction of NO_X and ROG mobile source emissions. As discussed for Impact 4.2-1, the proposed project (including the CNU Medical Center) would be consistent with the SIP; therefore, a 15 percent reduction is applied. The SMAQMD has determined that this reduction in emissions will satisfy the requirement for discussion of "feasible measures" pursuant to CEQA Guidelines Section 15126.4. The reduction targets, expressed as tons per year, calculated for the proposed project are shown in **Table 4.2-13** below.

TABLE 4.2-13
DETERMINATION OF REDUCTION TARGET FOR INNOVATION PARK PUD

Source	Pollutant	Emissions[1] (tons/year)	Target Reduction Percentage	Reduction Target, (tons/year)
Mobile sources	NO_X	37.0	15%	5.6
	ROG	34.6	15%	5.2

NOTE:
[1] Emissions as estimated using CalEEMod defaults without adjustments to account for project-specific trip and VMT reduction features.

SOURCE: Prepared by Environmental Science Associates, 2021; see Appendix C4.

The SMAQMD guidance recognizes that project- and site-specific traffic information is more relevant than information generated from a statewide model (identified as prerequisite *TS: Traffic Study* in the SMAQMD guidance). Project-specific traffic studies typically include calculation of internal trip capture based on the mix of uses, and account for reduced trip rates and trip lengths due to the availability of transit options, reduced distance to employment centers, and any trip reductions to account for walking and cycling. Since the proposed project would be designed to have a development density consistent with the Urban Center Low General Plan land use designation with a mix of uses, much of the reduction would be achieved by project design and location.

Emissions reductions associated with these features of the proposed project (including the CNU Medical Center) accounted for in the project-specific traffic study included as Appendix H were estimated and compared to the reduction target as shown in **Table 4.2-14**.

As shown in Table 4.2-14, the proposed project (including the CNU Medical Center) would result in a 16.1 and 18.9 tons per year reduction in ROG and NO_x, respectively, exceeding the reduction targets previously established in Table 4.2-13, which represents the 15 percent emissions reduction/mitigation guideline established by the SMAQMD. Thus, the operational impact from development allowed under the proposed project (including the CNU Medical Center) would be **less than significant**.

TABLE 4.2-14
INNOVATION PARK PUD AIR QUALITY MITIGATION PLAN EFFECTIVENESS

Condition	ROG, tons/year	NO_X, tons/year
Project mobile Emissions based on statewide model (A)	34.6	37.0
Project mobile emissions based on project-specific features (B)	18.5	18.1
Emissions Reduction (A-B)	16.1	18.9
Reduction Target	5.2	5.6
Meet Reduction Target?	Yes	Yes

SOURCE: Prepared by Environmental Science Associates, 2021; see Appendix C4.

Regarding the health-based effects of ozone, operational emissions from the proposed project, as shown in Table 4.2-12, would be above SMAQMD's thresholds of significance; thus, to determine ozone-related health risk that would result from project, the project's emissions were input into the SMAQMD Strategic Area Project Health Screening Tool. The nearest Strategic Area to the project area is greater than 4 kilometers away; therefore, the South Sacramento Strategic Area was conservatively selected. The screening tool uses two times the emissions significance thresholds and eight times the emissions significance threshold, and applies linear regression to determine health impacts. Because there is no Strategic Area near the project area, South Sacramento was selected to produce conservative, upper bound results since it is located in the highest population area in the 6-Air-District Region. The Innovation Park PUD area would be less populous than South Sacramento, and therefore it can be assumed that the ozone-related health effects associated with the proposed project would be less than the health risk estimated by the screening tool. Ozone-related health effects estimated using the Strategic Area Project Health Screening Tool are summarized in **Table 4.2-15**, below.

TABLE 4.2-15
OZONE-RELATED HEALTH RISKS

Ozone Health Endpoint	Age Range[1]	Average Incidences (per year)[2]	Percent of Background Health Incidence[3]
Hospital Admissions (all respiratory)	65–99	0.062	0.00032%
Emergency Room Visits, Asthma	0–17	0.37	0.0063%
Emergency Room Visits, Asthma	18–99	0.58	0.0046%
Mortality, Non-Accidental	0–99	0.041	0.00014%

NOTES:

1 Affected age ranges are shown. Other age ranges are available, but the endpoints and age ranges shown here are the ones used by the USEPA in its health assessments. The age ranges are consistent with the epidemiological study that is the basis of the health function.

2 Health effects are shown in terms of incidences of each health endpoint and how it compares to the base (2035 base year health effect incidences, or "background health incidence") values. Health effects are shown for the Reduced Sacramento 4-km Modeling Domain and the 5-Air-District Region.

3 The percent of background health incidence uses the mean incidence. The background health incidence is an estimate of the average number of people that are affected by the health endpoint in a given population over a given period of time. In this case, the background incidence rates cover the 5-Air-District Region (estimated 2035 population of 3,271,451 persons). Health incidence rates and other health data are typically collected by the government as well as the World Health Organization. The background incidence rates used here are obtained from BenMAP.

SOURCE: SMAQMD. 2020. Guidance to Address the Friant Ranch Ruling for CEQA Projects in the Sac Metro Air District. October 2020.

As shown in Table 4.2-15, the contribution of the proposed project to ozone-related health impacts is minuscule compared to the background ozone-related health risk. Furthermore, the ozone-related health risk estimated by the screening tool is a conservative estimate. Given that the proposed project would result in emissions lower than the emissions assumed by the screening tool, the ozone-related health risk associated with the proposed project would be less than the risk estimated by the SMAQMD Minor Project Health Effect Screening Tool. Therefore, ozone-related health risk impacts from operation of the proposed project (including the operations of the CNU Medical Center) would be **less than significant**

Mitigation Measure

Consistent with SMAQMD direction, none required.

Impact 4.2-4: Development allowed under the proposed project (including the CNU Medical Center) would expose sensitive receptors to substantial pollutant concentrations.

Construction

The key factors relevant to health effects related to exposure to air pollutants, especially TACs, are the concentration of pollutants and duration of exposure. DPM represents the primary TAC of concern from construction activities. Construction allowed under the proposed project (including the CNU Medical Center) would generate DPM emissions from the operation of internal combustion engines in equipment such as loaders, backhoes, and cranes, as well as diesel-fueled heavy duty haul trucks.

Existing sensitive receptors in the vicinity of the project area are described earlier in this section. Where construction would take place in the vicinity of newly introduced on-site sensitive receptors within the project area, these receptors could experience increased health risks. The occupants of the Bella Rose Condominiums and the Ashton Parc Apartments would be the closest residential receptors exposed to DPM emissions from construction activities associated with the proposed project (including the CNU Medical Center). In addition, as the proposed project is proposed to be constructed over a 16-year period, any sensitive land uses such as daycares, schools, and residential receptors introduced in the early phases of development would be exposed to DPM emissions from construction of later phases of development. The phasing of development allowed under the proposed project, with the exception of the CNU Medical Center, is not known at this time and would largely be driven by market conditions.

Exposure of sensitive receptors to DPM emissions from project construction activities is the primary factor used to determine health risk as it accounts for the majority of DPM emissions. Exposure is a function of the concentration of a substance or substances in the environment and the extent of exposure. According to OEHHA, health risk assessments should be based on a 30-year exposure period.[27] However, such assessments should be limited to the period/duration of activities associated with the project.

[27] Office of Environmental Health Hazard Assessment. 2015. *Guidance Manual for Preparation of Health Risk Assessments*. February 2015.

Health Risks to Existing Receptors

Maximum DPM concentrations at existing nearby receptors were modeled using USEPA AERMOD dispersion model, with site-specific terrain data and meteorological data from the Sacramento International Airport meteorological station. Cancer and non-cancer health risks to existing nearby receptors were evaluated based on OEHHA exposure parameters. The residential receptors at Ashton Parc Apartments, located less than 100 feet south of the project area, were found to experience maximum health risks from construction activities associated with the proposed project (including the CNU Medical Center). Unmitigated health risks at the residential receptors would exceed the SMAQMD significance thresholds and are shown in **Tables 4.2-16**, **4.2-17**, and **4.2-18**. Because the health risk impact on existing nearby residential receptors is estimated to be above the 10 in one million risk threshold, this impact would be **significant**. Mitigation Measure 4.2-4, below, has been identified to reduce this impact.

TABLE 4.2-16
CONSTRUCTION HEALTH RISK—CNU MEDICAL CENTER

Construction Risk[1]	Unmitigated Risk		Mitigated Risk	
	Cancer Risk (per million)	Chronic Hazard Index	Cancer Risk (per million)	Chronic Hazard Index
CNU Medical Center [2, 3]	**23.2**	0.01	1.8	<0.01
SMAQMD Thresholds	**10**	**1.0**	**10**	**1.0**
Significant (Yes or No)?	Yes	No	No	No

NOTES:
1 Project construction emissions estimates were made using CalEEMod version 2020.4.0, AERMOD version 21112, and OEHHA cancer risk calculation methodologies. See Appendix C1, C2, and C3 for model outputs and more detailed assumptions.
2 Maximally exposed receptor located at Ashton Parc apartment complex.
3 Values in **bold** are in excess of the applicable SMAQMD significance threshold.

SOURCE: Prepared by Environmental Science Associates, 2021; see Appendix C3.

TABLE 4.2-17
CONSTRUCTION HEALTH RISK—INNOVATION PARK PUD WITHOUT CNU MEDICAL CENTER

Construction Risk[1]	Unmitigated Risk		Mitigated Risk	
	Cancer Risk (per million)	Chronic Hazard Index	Cancer Risk (per million)	Chronic Hazard Index
Innovation Park (no CNU) [2, 3]	**12.7**	0.01	0.9	<0.01
SMAQMD Thresholds	**10**	**1.0**	**10**	**1.0**
Significant (Yes or No)?	Yes	No	No	No

NOTES:
1 Project construction emissions estimates were made using CalEEMod version 2020.4.0, AERMOD version 21112, and OEHHA cancer risk calculation methodologies. See Appendix C1, C2, and C3 for model outputs and more detailed assumptions.
2 Maximally exposed receptor located at Ashton Parc apartment complex.
3 Values in **bold** are in excess of the applicable SMAQMD significance threshold.

SOURCE: Prepared by Environmental Science Associates, 2021; see Appendix C3.

TABLE 4.2-18
CONSTRUCTION HEALTH RISK—INNOVATION PARK PUD WITH CNU MEDICAL CENTER

Construction Risk[1]	Unmitigated Risk		Mitigated Risk	
	Cancer Risk (per million)	Chronic Hazard Index	Cancer Risk (per million)	Chronic Hazard Index
Innovation Park (with CNU) [2, 3]	**33.7**	0.02	2.6	<0.01
SMAQMD Thresholds	**10**	**1**	**10**	**1**
Significant (Yes or No)?	Yes	No	No	No

NOTES:
1 Project construction emissions estimates were made using CalEEMod version 2020.4.0, AERMOD version 21112, and OEHHA cancer risk calculation methodologies. See Appendix C1, C2, and C3 for model outputs and more detailed assumptions.
2 Maximally exposed receptor located at Ashton Parc apartment complex.
3 Values in **bold** are in excess of the applicable SMAQMD significance threshold.

SOURCE: Prepared by Environmental Science Associates, 2021; see Appendix C3.

Operation

Operational activities, including landscaping maintenance operations, idling of diesel trucks, and emergency generator testing, use, and maintenance activities, would occur under the proposed project. The proposed CNU Medical Center would include a central utility plant equipped with natural gas boiler(s) and four emergency backup diesel generators. These activities would result in minimal emissions of TACs, including minor emissions for emergency operations only (typically less than 50 hours per year), and therefore have negligible associated health risks to existing sensitive receptors in the area. CARB's measure to limit idling of diesel-fueled commercial motor vehicles to a maximum of five minutes at any one location would limit impacts on air quality. Emergency generators and natural gas boilers proposed as part of the proposed project would be subject to SMAQMD permit requirements, which would ensure that operation of these generators and boilers would not significantly impact nearby receptors. The operational health risk impact associated with the proposed project (including the CNU Medical Center) would be **less than significant**, and no mitigation is required.

Mitigation Measure

Mitigation Measure 4.2-4 (PUD, CNU): Implement Measures to Reduce Health Risks from Diesel-Powered Construction Equipment.

Applicants for individual projects constructed under the proposed Innovation Park PUD, including the proposed CNU Medical Center, shall require construction contractors to implement the following measures to reduce health risks from diesel-powered fleets working at construction sites:

1. Implement Mitigation Measure 4.2-2(c), Implement Measures to Ensure the Use of Low-Emission Construction Equipment, for all project-related construction activities.

2. Restrict construction activities to the daytime and evening hours between 7 a.m. and 10 p.m., except for limited circumstances requiring nighttime construction (e.g., elongated concrete pours, on-street movement of large construction equipment), which may be allowed in accordance with Sacramento City Code section 8.68.080.

Significance After Mitigation: Implementation of Mitigation Measure 4.2-2(c) would reduce the exposure of existing residents to DPM emissions from construction under the proposed project by requiring the use of USEPA-Certified Tier 4F engines. Tier 4F engines are designed to have higher fuel efficiency, achieve significant reductions in emissions of both NO_x and DPM, and are now widely available and used for diesel-fueled heavy duty construction equipment throughout California. Restricting construction activities to the daytime and evening hours when there are better atmospheric conditions for dispersion of pollutants would also reduce exposure. Together, these two measures would reduce health risks to existing nearby sensitive receptors to below the established threshold, and the impact would be reduced to a **less-than-significant** level, as shown in Tables 4.2-16, 4.2-17, and 4.2-18.

Cumulative Impacts

The geographic context for changes in the air quality environment due to development permitted under the proposed project (including the CNU Medical Center) would be both regional and local. Ozone and $PM_{2.5}$ would be the primary pollutants of regional concern, meaning that the cumulative context would include all of the SVAB.

Particulates (fugitive dust and fine particulate matter, including DPM) and TACs could result in localized impacts in close proximity to pollutant sources. Table 4.0-1 presents a list of projects located within 0.5 mile of the project area boundary that are either currently under construction or have been proposed. Of these cumulative projects, two are adjacent to the project area. These include the Medley Apartments, located adjacent to the southwestern boundary of the project area, and Arena Seniors, an apartment complex located to the east. Construction schedules are not available for the cumulative projects or for the development of the project area. The project area (including the CNU Medical Center) would be developed over the 16-year period from 2022 to 2038; however, the order of development for parcels within the project area is not known at this point.

As described above in Impact 4.2-1, the proposed project (including the CNU Medical Center) would not conflict with or obstruct implementation of applicable air quality plans based on SACOG's future growth projections for the region, and thus, this less than significant impact is not discussed further in the cumulative analysis.

Impact 4.2-5: Construction activities associated with development under the proposed project (including the CNU Medical Center) could contribute to cumulative increases in short-term emissions.

As discussed under Impact 4.2-2, above, NO_x, PM_{10}, and $PM_{2.5}$ are the pollutants that SMAQMD has identified as primary concerns from construction. Development allowed under the Innovation Park PUD, including the proposed CNU Medical Center, in conjunction with other concurrent construction activities in the immediate vicinity of the project area and in the SVAB in general could contribute to cumulative construction-related NO_X, $PM_{10,}$ and $PM_{2.5}$ emissions. As shown in Tables 4.2-5, 4.2-6, and 4.2-7, construction of the proposed project (including the CNU Medical Center) would result in significant emissions of NO_X, PM_{10}, and $PM_{2.5}$, which could combine with emissions generated by other existing and future development within the SVAB to

contribute to an air quality impact in the region. Since construction emissions from development allowed under the proposed project (including the CNU Medical Center) would exceed SMAQMD project level thresholds, project-generated emissions would be considered a considerable contribution to a significant cumulative impact. Consequently, the proposed project (including the CNU Medical Center) would have a **significant** cumulative impact.

Mitigation Measures

Mitigation Measure 4.2-2(a) (PUD, CNU): Implement SMAQMD Basic Construction Emissions Control Practices.

Mitigation Measure 4.2-2(b) (PUD, CNU): Implement SMAQMD Exhaust Control Practices.

Mitigation Measure 4.2-2(c) (PUD, CNU): Implement Measures to Ensure the Use of Low-Emission Construction Equipment.

Mitigation Measure 4.2-2(d) (PUD, CNU): Implement SMAQMD Enhanced Fugitive Dust Control Practices.

Mitigation Measure 4.2-2(e) (PUD, CNU): Prepare and Implement Construction Air Quality Management Plan for Arena Implosion.

See Impact 4.2-2, above, for the text of these mitigation measures.

Significance After Mitigation: With implementation of Mitigation Measures 4.2-2(a) through 4.2-2(e) detailed under Impact 4.2-2 for the project-level impacts, fugitive dust and exhaust emissions would be reduced on site to levels below SMAQMD thresholds. However, as described above, implosion of the arena structure would generate airborne demolition debris that may include fine particles, including PM_{10}, $PM_{2.5}$, and airborne asbestos. Implementation of BMPs specific to the proposed project as required under Mitigation Measure 4.2-2(e) would reduce air quality impacts associated with implosion by instituting controls on airborne particulates to minimize their release but the impact from implosion activities could be significant. Cumulative NO_X and PM emissions in the SVAB would be significant due to existing violations in the region, with implementation of Mitigation Measures 4.2-2(a) through 4.2-2(e), the proposed project's contributions would be reduced but implosion would result in a considerable contribution to the significant cumulative impact. Thus, even with mitigation, the impact from implosion activities could be **significant and unavoidable**.

Impact 4.2-6: Operation of the development allowed under the proposed project (including the CNU Medical Center) could contribute to cumulative increases in long-term emissions of NO_x, ROG, PM_{10}, and $PM_{2.5}$.

As discussed under Impact 4.2-3, above, ozone precursors (ROG and NO_x) and PM are pollutants of regional concern as the SVAB is in nonattainment for ozone and PM standards. All mobile, area, and energy sources in the SVAB that would operate concurrently with development allowed under the Innovation Park PUD, including the proposed CNU Medical Center, would contribute to cumulative operational ROG, NO_X, and PM emissions. As described in Impact 4.2-3, development allowed under the proposed project (including the CNU Medical Center) would

result in emissions of ROG, NO_X, and PM emissions that would combine with emissions generated by other existing and future mobile and stationary sources within the SVAB to contribute to continued air quality violations in the region for ground-level ozone and PM.

The contribution of operational emissions of ozone precursors and PM emissions from the proposed project (including the CNU Medical Center) to cumulative air quality impacts are evaluated based on the methodology provided by SMAQMD. SMAQMD provides a four-step process to determine if emissions from a proposed project would be considered cumulatively considerable, and thus significant, as detailed below.[28]

1. Would the project result in emissions that exceed the applicable ozone precursor and PM project-level thresholds?

    a. If no, the project would not be considered cumulatively considerable, and would be less than significant for this cumulative impact.

    b. If yes, proceed to step 2.

As shown Table 4.2-12, operational emissions from development allowed under the proposed project (including the CNU Medical Center) would exceed SMAQMD operational thresholds.

2. Would the project involve a change in a land use designation established by the applicable local land use plan and/or general plan?

    c. If no, the project would not be considered cumulatively considerable, and would be less than significant for this cumulative impact.

    d. If yes, proceed to step 3.

The project area is currently designated for development as Urban Center High in the 2035 General Plan. The area would be re-designated upon approval of the Innovation Park PUD to Urban Center Low. This re-designation would result in lower emissions intensity (see #3 and 4 below).

3. Is the existing land use designation part of a general plan and regional transportation plan that was adopted prior to the time the most current ozone attainment plan (OAP) emissions baseline assumptions were developed?

    a. If no, the development of the project site is not accounted for in the emissions budget contained in the OAP/SIP and is thereby inconsistent with the OAP/SIP. The project would be expected to result in a substantial contribution to this significant air quality impact.

    b. If yes, proceed to step 4.

As discussed under Impact 4.2-1, development assumptions such as population growth and VMT increase associated with the project area's current designation as Urban Center High are included

[28] Sacramento Metropolitan Air Quality Management District. 2009. *Guide to Air Quality Assessment – Chapter 8, Cumulative Air Quality Impacts*. Adopted December 2009 and last updated July 2019.

in the most recent SACOG projections, which form the basis of regional air quality planning. The emissions from the proposed project are therefore accounted for in the current OAP/SIP.

4. Would the project's total emissions and/or emissions per capita be less than or equal to those that would result from buildout of the existing land use designation?

    a. If no, the project would substantially contribute to this significant air quality impact.

    b. If yes, the project would not conflict with the emissions budget in the OAP/SIP. This impact would be considered less than cumulatively considerable, and less than significant.

Population growth and VMT increase attributable to the project area would be lower than that accounted for in the General Plan and regional air quality planning projections, resulting in lower emissions and hence would not conflict with the projections.

Therefore, based on SMAQMD guidance, the contribution of operational emissions of ozone precursors and PM emissions from the proposed project (including the CNU Medical Center) to the cumulative air quality of the region would not be cumulatively considerable, and, therefore, this impact would be **less than significant.**

Mitigation Measure

None required.

Impact 4.2-7: Development allowed under the proposed project (including the CNU Medical Center) could cumulatively expose sensitive receptors to substantial pollutant concentrations.

The evaluation of health risks from TACs represents a local, rather than regional, analysis. The analysis described in Impact 4.2-4 and in Appendix C3 show that TACs and resulting health risks produced during construction and from operations after full buildout of the proposed project (including the CNU Medical Center) would result in significant impacts. The SMAQMD considers the project-level threshold of significance for evaluating TACs generated by a project as also applicable to a project's contribution to cumulative TACs. Therefore, since development allowed under the proposed project (including the CNU Medical Center) would have a significant project-specific health risk, it would also have the potential for a considerable contribution to a significant cumulative health risk. Consequently, the proposed project (including the CNU Medical Center) would result in a **significant** cumulative impact.

Mitigation Measure

> **Mitigation Measure 4.2-4 (PUD, CNU): Implement Measures to Reduce Health Risks from Diesel-Powered Construction Equipment.**
>
> See Impact 4.2-4, above, for the text of this mitigation measure.

Significance After Mitigation: With implementation of Mitigation Measure 4.2-4 described under Impact 4.2-4, potential health risk impacts on existing nearby sensitive receptors would be less than significant. Thus, the contribution of the proposed project (including the CNU Medical Center) to the cumulative health risk impact would also be reduced to be less than cumulatively considerable, resulting in a **less-than-significant** cumulative impact.

4.3 Biological Resources

This section examines the potential impacts of implementation of the proposed Innovation Park PUD, including the CNU Medical Center (together the *proposed project*), on biological resources and identifies mitigation measures to avoid or reduce those impacts, where appropriate. The discussion includes a summary of the current regulatory status relevant to biological resources potentially present in and near the Innovation Park PUD area (referred to in this section as the *project area*).

The information and analysis in this section focuses on special-status species,[1] wildlife habitats, vegetation communities, and jurisdictional waters of the United States and of the state that occur or have the potential to occur in the project area. The results of the assessment in this section are based on literature review and queries of the California Department of Fish and Wildlife (CDFW) Natural Diversity Database (CNDDB), the U.S. Fish and Wildlife Service (USFWS) list of federally listed endangered and threatened species, and the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants, as well as surveys conducted in the project area. Biological resources in the project area were identified through field reconnaissance surveys conducted in 2015 and 2019. Before the surveys, a review of pertinent literature and database queries was conducted for the project area. The following sources of reference data were reviewed for this evaluation:

- North Natomas/Sleep Train Arena Biological Resources Constraints Report.[2]
- City of Sacramento 2035 General Plan Master EIR.[3]
- Taylor Monument[4] U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle.
- Google Earth aerial photographs of the project area.[5]
- List of federally listed endangered and threatened species that may occur in the project area and/or may be affected by the proposed project.[6]
- CNDDB list of special-status species occurrences within the Taylor Monument and eight surrounding USGS 7.5-minute topographic quadrangles (Knights Landing, Verona, Pleasant Grove, Grays Bend, Rio Linda, Davis, Sacramento West, and Sacramento East).[7]

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1 Species that are protected pursuant to federal or state endangered species laws, or have been designated as Species of Special Concern by the California Department of Fish and Wildlife, or species that are not included on any agency listing but meet the definition of rare, endangered, or threatened species in CEQA Guidelines Section 15380(b), are collectively referred to as *special-status species*.

2 Environmental Science Associates. 2018. *North Natomas/Sleep Train Arena Biological Resources Constraints Report*. September 15, 2018.

3 City of Sacramento. 2015. *City of Sacramento 2035 General Plan Update Master Environmental Impact Report*. Certified March 3, 2015.

4 U.S. Geological Survey. 1980. Taylor Monument Quadrangle, California, 7.5 Minute Series topographic map.

5 Google Earth. 2019. Aerial photographs from 1985-2019. Project Coordinates: 38° 38' 55.93″ N, 121° 31' 06.02″ W.

6 U.S. Fish and Wildlife Service. 2021. List of Threatened and Endangered Species that May Occur in the Proposed Project Location, and/or May be Affected by the Proposed Project. Available: https://ecos.fws.gov/ipac/. Accessed July 13, 2021.

7 California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 23, 2021.

- CNPS Inventory of Rare and Endangered Plants (v8-03) known to occur within the Taylor Monument and eight surrounding USGS 7.5-minute topographic quadrangles.[8]
- USFWS Critical Habitat for Threatened and Endangered Species (online mapping program).[9]
- National Wetlands Inventory.[10]
- Special Vascular Plants, Bryophytes, and Lichens List.[11]
- Special Animals List.[12]

In response to the Notice of Preparation (NOP) (see Appendices A and B), CDFW noted that the PUD area falls within the boundaries of the Natomas Basin Habitat Conservation Plan (NBHCP), and recommended that the EIR discuss the proposed project in this regard. CDFW also suggested addressing special-status species in the EIR, and provided recommended mitigation measures to address potential impacts on special-status species. Both the NBHCP and potential impacts on special-status species are addressed in this section.

Also, in response to the NOP, the Central Valley Regional Water Quality Control Board (RWQCB) stated that the proposed project would require Clean Water Act (CWA) permits if it would involve the discharge of dredged or fill material in waters. The Central Valley RWQCB also noted that discharges to waters of the State would require a waste discharge permit. The regulatory requirements regarding waters of the United States and waters of the State, as well as potential impacts on these features, are addressed in this section.

Survey Methodology

Before field surveys were conducted, available information regarding biological resources in the project area was gathered and reviewed, including information on special-status plant and wildlife species with the potential to occur in the vicinity of the project area. Queries of the CNDDB, CNPS, and USFWS Information for Planning and Consultation databases were conducted in 2015 before the survey dates.[13] The database queries were updated on October 17, 2019, and again on July 13, 2021. Lists of special-status plant and wildlife species with the potential to occur in the project area were developed based on the review of existing information, as identified above. These lists were used to focus the area of investigation on the special-status species and associated habitats with the potential to be present in the project area. Following a review of the

[8] California Native Plant Society. 2021. Rare Plant Program. Inventory of Rare and Endangered Plants (online edition, v8-03 0.39). Sacramento, CA. Available: http://rareplants.cnps.org/. Accessed July 13, 2021.

[9] U.S. Fish and Wildlife Service. 2021. Critical Habitat Portal. Available: http://ecos.fws.gov/crithab/. Accessed July 13, 2021.

[10] U.S. Fish and Wildlife Service. 2021. National Wetlands Inventory. Available: http://fws.gov/wetlands/. Accessed July 13, 2021.

[11] California Department of Fish and Wildife. 2021. Natural Diversity Database. Special Vascular Plants, Bryophytes, and Lichens List. Quarterly publication. July 13, 2021.

[12] California Department of Fish and Wildife. 2021. Natural Diversity Database. Special Animals List. Periodic publication. July 2021.

[13] Database searches included the Taylor Monument and eight surrounding U.S. Geological Survey 7.5-minute topographic quadrangles.

resources listed above, it was determined that field surveys were required to assess the project area for sensitive biological resources, including special-status plants and wildlife.

Qualified biologists from Environmental Science Associates (ESA) conducted a variety of biological resources surveys in the project area on August 31 and October 1, 2015; April 2, 2019; and August 16, 17, 18, 20, and 23, 2021. **Table 4.3-1** summarizes the biological resources surveys conducted for the project by date and biologist. The qualifications of the biologists are provided in **Appendix D**.

TABLE 4.3-1
BIOLOGICAL RESOURCES SURVEYS CONDUCTED FOR THE PROJECT

Survey Date(s)	Personnel	
	Name	**Type of Survey**
August 31, 2015	Joshua Boldt, Biologist	Special-status species habitat assessments, wildlife habitat and vegetation mapping, mapping of state and federally protected waters
October 1, 2015	Joshua Boldt, Biologist	Special-status species habitat assessments, wildlife habitat and vegetation mapping, mapping of state and federally protected waters
April 2, 2019	Kelly Bayne, Biologist/Certified Arborist Jessica Orsolini, Biologist/Certified Arborist	Special-status species habitat assessments, giant garter snake habitat assessment, black-crowned night-heron rookery assessment
August 10, 11, 13, and August 23, 2021	Kelly Bayne, Biologist/Certified Arborist Jessica Orsolini, Biologist/Certified Arborist Julie McNamara, Biologist/Certified Arborist	Arborist surveys on the site of the proposed California Northstate Medical Center
August 20, 2021	Kelly Bayne, Biologist/Certified Arborist	Special-status species habitat assessments, giant garter snake habitat assessment, black-crowned night-heron rookery assessment, pond and riparian woodland assessment

SOURCE: Data compiled by Environmental Science Associates in 2015, 2019, and 2021

The special-status species surveys were conducted by walking the entire project area on foot, and recording existing habitat types, plants, and wildlife species within and adjacent to the project area. Plant communities and wildlife habitats were identified and mapped using aerial photo interpretation and field reconnaissance. The results of all of the surveys are incorporated into this section.

Before the field surveys, the characteristics and habitat requirements of special-status species were reviewed to aid in field recognition of suitable habitats. During the surveys, habitats were evaluated for their potential to support special-status species and the presence of any other biologically sensitive resources such as wetlands, riparian habitat, or drainages. Included in the survey conducted on April 2, 2019, was an assessment of potential giant garter snake habitat and rookery habitat within the riparian woodland. The August 20, 2021, survey included a subsequent assessment of potential giant garter snake habitat including a detailed view of any potential dispersal habitat, a review of the rookery habitat within the riparian woodland, and a review of the pond. This assessment consisted of an evaluation of potential upland habitat adjacent to

potential aquatic habitat. While a formal aquatic resources delineation was not conducted, potential wetlands and other waters of the United States and of the State occur in the PUD area.

Arborist surveys were conducted on August 18–21 and 23, 2021 by certified arborists within a minimum 50-foot buffer around the site of the proposed CNU Medical Center and adjacent roads anticipated to be constructed in the initial two years of development. The survey results are discussed in detail in **Appendix D**.

4.3.1 Environmental Setting

Regional Setting

The study area for biological resources consists of the project area, which encompasses approximately 183.7 acres in the City of Sacramento, within the Sacramento Valley floristic province of the Great Central Valley[14] (see Figure 2-1 in Chapter 2, *Project Description*). Historically, the region supported extensive marshes, riparian woodland intermixed with oak woodland, vernal pool complexes, and native grasslands. Intensive agricultural and urban development has resulted in substantial changes and conversions of these habitats. The remaining native vegetative communities exist now as isolated remnant patches within urban and agricultural landscapes. The Pacific Flyway encompasses waterfowl habitats and stretches 4,000 miles north to south and 1,000 miles east to west from the Arctic to the west coast of Mexico and the Rocky Mountains to the Pacific Ocean. The project area lies within the Pacific Flyway.

The project area is situated on the broad, flat alluvial plain of the Sacramento River, and terrain is generally flat. The elevation of the project area is approximately 10–20 feet above mean sea level. Climate is typically hot and sub-humid. Data from the Western Regional Climate Center for the Sacramento Airport weather station indicate that average annual precipitation is 17.24 inches. The average maximum annual temperature is 73.6 degrees Fahrenheit (°F) and average minimum annual temperature is 48.1°F.[15]

Wildlife Habitats and Vegetation Types

Wildlife habitats are generally described in terms of vegetation types along with landform, disturbance regime, and other unique environmental characteristics. Vegetation types are assemblages of plant species that occur together in the same area, are repeated across landscapes, and are defined by species composition and relative abundance. Wildlife habitats generally correspond to vegetation types.

The habitat types described in this section were classified using CDFW's *A Guide to Wildlife Habitats of California*,[16] a habitat classification scheme developed to support CDFW's California Wildlife Habitat Relationship (CWHR) System. The CWHR System is a wildlife information

[14] Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken (eds.). 2012. *The Jepson Manual: Vascular Plants of California,* Second Edition. Berkeley: University of California Press. Page 41.

[15] Western Regional Climate Center. 2019. Climate data. Available: http://www.wrcc.edu/. Accessed May 23, 2019.

[16] Mayer, K. E., and W. F. Laudenslayer Jr. 1988. *A Guide to Wildlife Habitats of California*. Sacramento: California Department of Fish and Game. Available: http://www.wildlife.ca.gov/Data/CWHR/Wildlife-Habitats. Accessed May 23, 2019.

system and predictive model for California's regularly occurring wildlife species. The vegetation types described in this section were classified according to *A Manual of California Vegetation,* 2nd Edition.[17]

In CDFW's current vegetation classification system, vegetation alliances are the scientifically derived hierarchical class that corresponds best with plant communities and are designed to be the unit for conservation of rare or threatened plant communities.[18] Vegetation alliances typically represent a much finer scale of vegetation description than wildlife habitats, but correspond approximately with one or several wildlife habitat types. CDFW provides crosswalks to help correlate vegetation alliances with wildlife habitats; the following descriptions make use of the crosswalks.

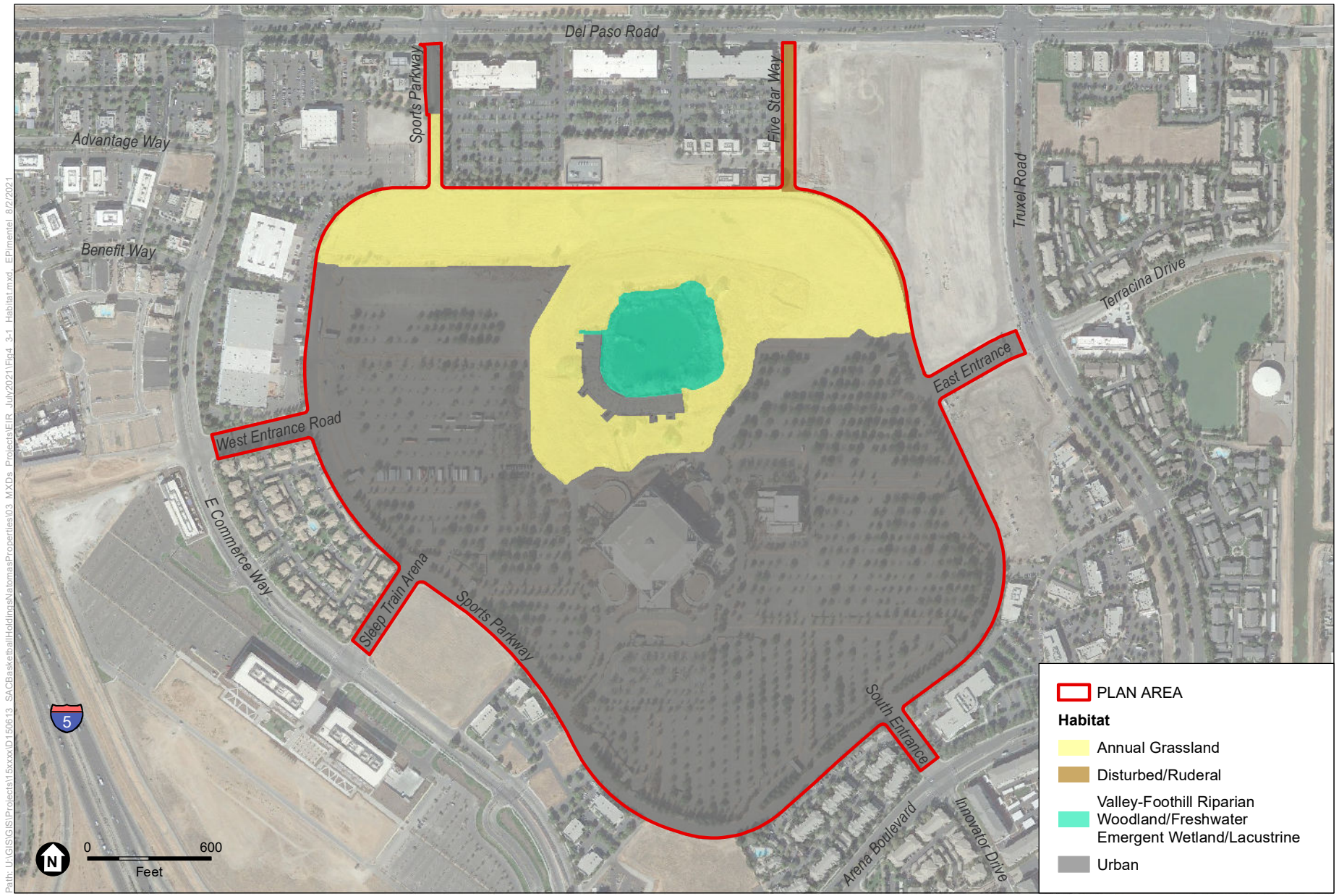
A description of each habitat type is presented below. Related vegetation alliances are listed following the wildlife habitat description and are based on the alliance descriptions presented by Sawyer et al. (2009) in *A Manual of California Vegetation*. Vegetation alliances considered a sensitive natural community by CDFW are marked below by an asterisk (*) and should therefore be considered a sensitive natural community under CEQA regulations.

Habitats present within the entire project area include annual grassland, valley foothill riparian, freshwater emergent wetland, lacustrine, disturbed/ruderal, and urban. Habitats present on the site of the proposed CNU Medical Center include annual grassland and urban. The majority of the project area is composed of urban development and infrastructure associated with the existing Sleep Train Arena building. The northern portion of the project area is comprised of annual grassland and freshwater emergent wetland, lacustrine, and urban habitats. This area of the site contains the foundation and excavated area for a partially constructed baseball field and stadium; construction of the baseball field and stadium was discontinued many years ago.

Because native habitats have been altered by changes in land use, native plant communities in the project area are limited. **Table 4.3-2** provides the acreages of habitats present in the project area. Habitat acreages are also divided out to identify the area associated with the CNU Medical Center and the remaining area associated with the Innovation Park PUD area since the area of the CNU Medical Center has already been determined. **Figure 4.3-1** summarizes the extent of wildlife habitats that occur in the project area. **Figure 4.3-2** shows detail of the valley-foothill riparian woodland/freshwater emergent wetland/lacustrine habitat complex. **Appendix D** provides photos of the habitats found in the project area.

[17] Sawyer, J. O., T. Keeler-Wolf, and J. Evens. 2009. *A Manual of California Vegetation,* 2nd Edition. Sacramento: California Native Plant Society. Pages 775 and 784.

[18] Sawyer, J. O., T. Keeler-Wolf, and J. Evens. 2009. *A Manual of California Vegetation,* 2nd Edition. Sacramento: California Native Plant Society. Pages 775 and 784.

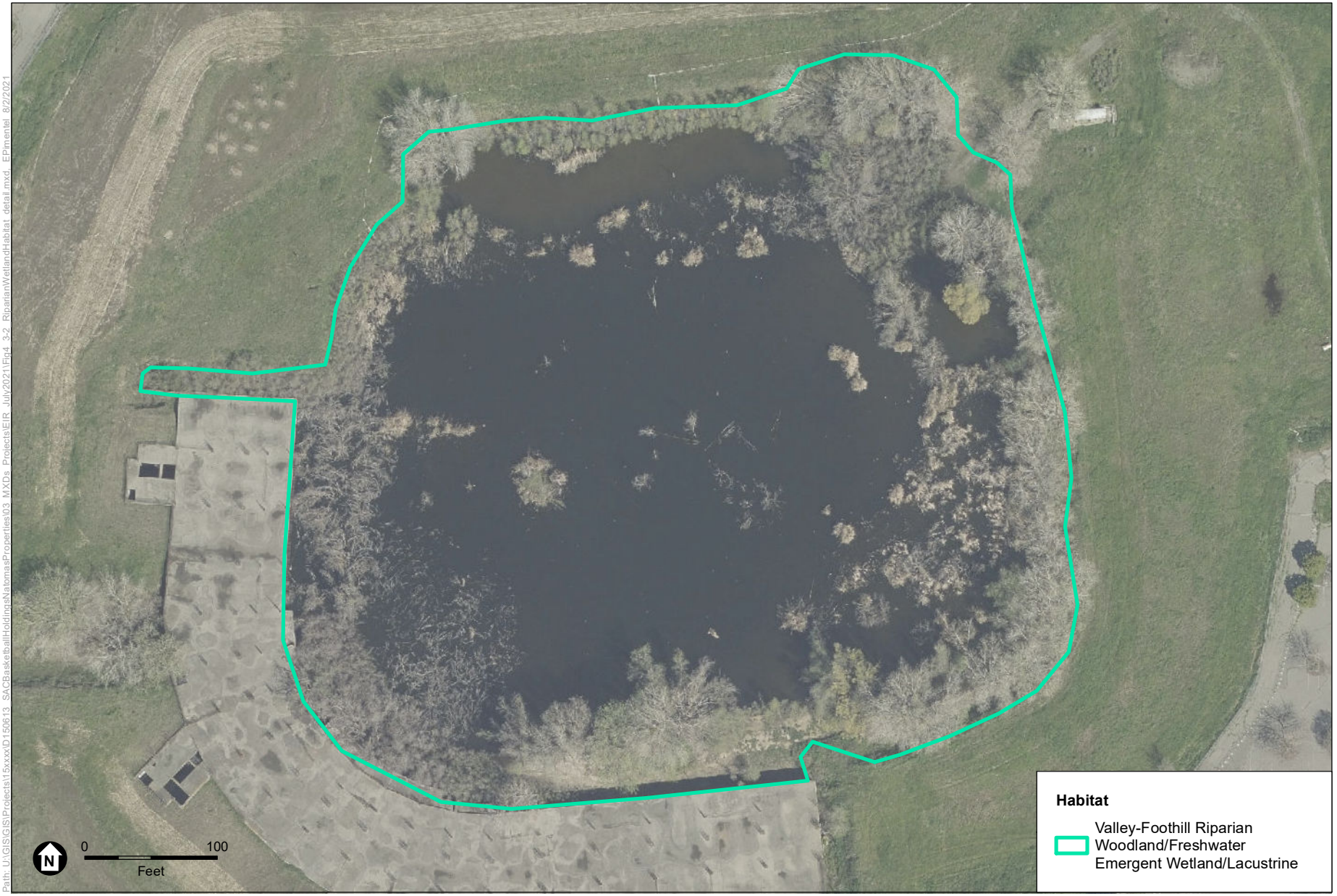


SOURCE: Google, 2020; ESA, 2021

Innovation Park PUD

Figure 4.3-1
Habitat Types

ESA



SOURCE: Sacramento County, 2018; ESA, 2021

Innovation Park PUD

Figure 4.3-2
Valley-Foothill Riparian Woodland/Freshwater Emergent Wetland/Lacustrine Habitat Complex – Detail

ESA

TABLE 4.3-2
HABITAT TYPES IN THE INNOVATION PARK PUD AREA

Habitat Type	Area (acres) within the CNU Medical Center Site	Area (acres) within the Innovation Park PUD Area Only	Total Project Area (acres)
Annual Grassland	0.17	41.83	**42.00**
Valley-Foothill Riparian Woodland/Freshwater Emergent Wetland/Lacustrine[1]		6.38	**6.38**
Disturbed/Ruderal		1.32	**1.32**
Urban	35.64	98.21	**133.85**
Totals	35.81	147.91	**183.72**

NOTE:

[1] Wetlands and other waters of the United States have not been formally delineated and the jurisdictional status of aquatic features has not been verified by the U.S. Army Corps of Engineers. However, for the purposes of this EIR, the aquatic resources in the project area are assumed to be jurisdictional under the Clean Water Act and state regulations. Because these features have not been formally delineated, and because of the mosaic nature of these features, these habitat types have been mapped collectively in Figures 4.3-1 and 4.3-2.

SOURCE: Data compiled by Environmental Science Associates in 2019

Annual Grassland

Within the Innovation Park PUD area, non-native annual grassland is the dominant vegetated habitat type. Only a small amount of non-native annual grassland occurs within the CNU Medical Center. Grasslands north of the partially constructed baseball field and stadium undergo frequent mowing and disking, while the grasslands within the fenced-in area surrounding the partially constructed baseball field and stadium are not managed.

Characteristic non-native plant species found within this habitat type include annual grasses such as wild oats (*Avena barbata*,[19] *A. fatua*), bromes (*Bromus diandrus, B. hordeaceus*), foxtail fescue (*Festuca myuros*), perennial ryegrass (*Festuca perennis*), and wild barleys (*Hordeum murinum* ssp. *leporinum*, *H. marinum* ssp. *gussoneanum*), as well as non-native herbs such as yellow star-thistle (*Centaurea solstitialis*), black mustard (*Brassica nigra*), milk thistle (*Silybum marianum*), common vetch (*Vicia sativa* ssp. *nigra*), wild radish (*Raphanus sativus*), geranium (*Geranium dissectum, G. molle*), storksbill (*Erodium botrys*), smooth cat's-ear (*Hypochaeris glabra*), rose clover (*Trifolium hirtum*), shamrock clover (*Trifolium dubium*), hairy hawkbit (*Leontodon saxatilis*), and prickly lettuce (*Lactuca serriola*).

Despite the dominance of non-native annual grasses and forbs, scattered native plant species are also present in the grasslands. These native species include Canada horseweed (*Erigeron canadensis*), virgate tarweed (*Holocarpha virgata*), spikeweed (*Centromadia fitchii*), turkey mullein (*Croton setigerus*), and various bulb species, including harvest brodiaea (*Brodiaea elegans*), blue-dicks (*Dichelostemma capitatum*), Ithuriel's spear (*Triteleia laxa*), and wild hyacinth (*Triteleia hyacinthina*).

[19] Species taxonomy follows *The Jepson Manual: Vascular Plants of California*, second edition (Baldwin et al., 2012), as revised by the Jepson eFlora (Jepson Flora Project [eds.], 2019. *Jepson eFlora.* Available: http://ucjeps.berkeley.edu/eflora/. Accessed September 20, 2019.

Many wildlife species use grasslands for foraging, but some require special habitat features such as cliffs, caves, ponds, fence posts, or habitats with woody plants for breeding, resting, and cover. Characteristic reptiles that occur in grasslands include the western fence lizard (*Sceloporus occidentalis*) and common garter snake (*Thamnophis sirtalis*). Mammals typically found in this habitat include the black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Otospermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), western harvest mouse (*Reithrodontomys megalotis*), and California vole (*Microtus californicus*).

Birds known to breed in annual grasslands include burrowing owl (*Athene cunicularia*), horned lark (*Eremophila alpestris*), and western meadowlark (*Sturnella neglecta*). This habitat also provides important foraging habitat for birds such as Swainson's hawk (*Buteo swainsoni*), turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), white-tailed kite (*Elanus leucurus*), and American kestrel (*Falco sparverius*).

Vegetation Alliances

- *Avena* (*barbata, fatua*) (44.150.00) Wild oats grassland
- *Bromus* (*diandrus, hordeaceus*) (42.026.00) Annual brome grassland
- *Festuca perennis* (41.321.00) Perennial ryegrass fields
- *Brassica nigra* (42.011.00) Upland mustards
- *Centaurea solstitialis* (42.042.00) Yellow star-thistle fields

Valley-Foothill Riparian Woodland

Riparian woodland within the project area is found around the perimeter of the excavated baseball field area, and is associated with freshwater emergent wetlands and pond (lacustrine) habitats, as shown in Figure 4.3-1. Similar to the pond and freshwater emergent wetland habitats discussed below, the riparian woodland appears to be supported by groundwater. The baseball field was originally excavated in the late 1980s. Before the excavation of the site, the area supported annual grassland habitat. Until 2011, the excavated area was periodically pumped of water and was usually dry because of this dewatering program, although evidence of inundation is visible in several photos before 2011. Pumping of the water from the excavated area appears to have ceased in 2011, and the pit has been more or less continually inundated since that time. An investigation of historical aerial photographs indicates that riparian vegetation first appeared on the site around 1998.[20] This riparian vegetation consists of a thin band of trees and shrubs surrounding the pond and freshwater emergent wetland. Once dewatering of the excavated area ceased, a mosaic of habitat types, including riparian, pond, and wetland, were artificially created over time by fluctuating water levels.

Riparian habitat in the project area supports a mixture of dense willow (*Salix lasiolepis*, *S. gooddingii, S. exigua*) trees and shrubs and Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) trees in the overstory, with some Himalayan blackberry (*Rubus armeniacus*) in the understory. Little herbaceous cover is found under the dense tree and shrub canopy, but where present, it includes spreading rush (*Juncus patens*) and umbrella sedge (*Cyperus eragrostis*) as

[20] Google Earth. 2019. Aerial photographs from 1985-2019. Project Coordinates: 38° 38' 55.93″ N, 121° 31' 06.02″ W.

well as upland annual grassland species. Because of the mosaic nature of this habitat, the valley-foothill riparian woodland, lacustrine, and freshwater emergent wetlands are mapped collectively in Figures 4.3-1 and 4.3-2.

Riparian habitat at the project area may provide food, water, breeding sites, and thermal cover for many resident and migratory wildlife species. As described above, this riparian habitat is associated with a man-made pond and does not provide connectivity to nearby riparian habitat, nor does it function as a habitat corridor for wildlife species, although migratory birds may use the area. Wooded pond edges serve as nesting sites and escape habitat for many species. Foliage, bark, and ground substrates provide a variety of foraging areas.

The following birds were observed nesting within the riparian area: black-crowned heron (*Nycticorax nycticorax*) and cattle egret (*Bubulcus ibis*). The following birds were observed foraging within and in the vicinity of the riparian area: northern mockingbird (*Mimus polyglottos*), California scrub-jay (*Aphelocoma californica*), barn swallow (*Hirundo rustica*), cliff swallow (*Petrochelidon pyrrhonota*), mallard (*Anas platyrhynchos*), and red-winged blackbird (*Agelaius phoeniceus*). During surveys conducted in the Innovation Park PUD area in April 2019, approximately 100 active black-crowned night heron (*Nycticorax nycticorax*) nests and five active cattle egret (*Bulbulcus ibis*) nests were observed in the riparian woodland habitat.

Riparian woodlands provide habitat for reptiles and amphibians including the western toad (*Anaxyrus boreas*), California newt (*Taricha torosa*), Pacific tree frog (*Pseudacris regilla*), and Pacific slender salamander (*Batrachoseps pacificus*). Mammals such as the western harvest mouse (*Reithrodontomys megalotis*), deer mouse (*Peromyscus maniculatus*), western gray squirrel (*Sciurus griseus*), Virginia opossum (*Didelphis marsupialis*), striped skunk (*Mephitis mephitis*), and raccoon (*Procyon lotor*) utilize these habits for nesting and foraging. Small rodents may attract raptors such as red-shouldered hawk (*Buteo lineatus*) and red-tailed hawk.

Vegetation Alliances

- *Salix exigua* (61.209.00) Sandbar willow thickets
- *Salix gooddingii* (61.211.00) Black willow thickets*
- *Salix lasiolepis* (61.201.00) Arroyo willow thickets*
- *Populus fremontii* (61.130.00) Fremont cottonwood forest*

Lacustrine/Freshwater Emergent Wetland

During initial development of the previously planned baseball field and stadium, an area intended to be the baseball field was excavated at the site. The baseball field was originally excavated in the late 1980s. Before the excavation of the field, the area supported annual grassland habitat. This area has subsequently filled with water, forming a mosaic of valley-foothill riparian woodland (see above), pond (lacustrine) and freshwater emergent wetland habitats. Freshwater emergent wetland vegetation occurs scattered throughout the excavated area, predominantly along the lower banks. Broad-leaved cattail (*Typha latifolia*) is the dominant species in the freshwater emergent wetland. Because of the mosaic nature of this habitat, the valley-foothill riparian woodland, lacustrine, and freshwater emergent wetlands are mapped collectively in Figures 4.3-1 and 4.3-1.

The excavated area does not appear to have any inflows or outflows, and the surrounding watershed is minimal. During the biological resources surveys conducted on August 31 and October 1, 2015, and on August 20, 2021, the excavated area was inundated even though the Sacramento area had not experienced any recent precipitation and the region was in the midst of a severe drought. Thus, it is assumed this area is supported almost entirely by groundwater. An investigation of historical aerial photographs indicates that until 2011, the excavated area was periodically pumped of water and was usually dry because of this dewatering program, although evidence of inundation is visible in several photos before 2011. Pumping of the water from the excavated area appears to have ceased in 2011, and the pit has been continually inundated since that time.[21]

Open-water habitats such as permanent ponds may support various types of aquatic species such as waterfowl and some reptiles and mammals. Wildlife use of freshwater emergent wetlands largely includes wading birds and waterfowl species such as mallard (*Anas platyrhynchos*), American coot (*Fulica americana*), common moorhen (*Gallinula chloropus*), and snowy egret (*Egretta thula*). Red-winged blackbirds (*Agelaius phoeniceus*) and aquatic reptiles and amphibians also commonly use this habitat. Bullfrogs (*Lithobates catesbeianus*) were observed in the pond during the April 2, 2019, and August 20, 2021, surveys.

Freshwater emergent wetlands are among the most productive wildlife habitats. They provide food, water, and shelter for many species of amphibians, reptiles, birds, and mammals. Freshwater emergent wetland habitats are often contiguous with riparian habitat and support many of the same wildlife species previously described.

Vegetation Alliances

- *Typha (angustifolia, domingensis, latifolia)* (52.050.00) Cattail marshes

Disturbed/Ruderal

Disturbed/ruderal habitats are subjected to ongoing or past disturbances (e.g., vehicle use, grading). Because of the disturbance regime, vegetation cover in this habitat type is limited.

There is a small strip of land in the northeast section of the project area that is classified as disturbed/ruderal. This area undergoes continuous maintenance and vegetation management and it was almost entirely unvegetated at the time of the biological resources surveys. Plant species adapted to frequent disturbance observed in the disturbed areas include stinkwort (*Dittrichia graveolens*), Russian thistle (*Salsola tragus*), short-pod mustard (*Hirschfeldia incana*), and yellow starthistle. Plant cover is extremely sparse; few individuals are established within the disturbed area. As such, no vegetation alliances correlate with the disturbed habitat type. This habitat provides limited opportunities for wildlife; however, certain species are known to use disturbed (gravelly) habitat, including killdeer (*Charadrius vociferus*).

Urban

Urban portions of the project area include the existing Sleep Train Arena building, the former Sacramento Kings practice facility, paved roadways, parking lots, associated development and

[21] Google Earth. 2019. Aerial photographs from 1985-2019. Project Coordinates: 38° 38' 55.93″ N, 121° 31' 06.02″ W.

infrastructure, and the foundation for the partially constructed baseball field and stadium. Urban areas are paved or otherwise developed and generally lack natural vegetation. Vegetation associated with developed areas consists of lawns and ornamental shrubs and trees. Tree species noted in the parking lots and associated infrastructure include valley oak (*Quercus lobata*), redwood (*Sequoia sempervirens*), Chinese pistache (*Pistachia chinensis*), northern catalpa (*Catalpa speciosa*), and ornamental willow (*Salix* sp.).

Native and introduced wildlife species that are tolerant of human activities often thrive in urban habitats. Developed infrastructure such as buildings and ornamental landscaping provide habitat for some wildlife species. For example, common birds such as house finch (*Carpodacus mexicanus*) build their nests on structures, and less abundant species like black phoebe (*Sayornis nigricans*), cliff swallow (*Hirundo pyrrhonota*), and barn swallow (*Hirundo rustica*) also use buildings, especially near water. Birds such as killdeer (*Charadrius vociferus*), American robin (*Turdus migratorius*), and American pipit (*Anthus rubescens*) are likely to use urban habitat. Older or abandoned structures, such as the foundation associated with the abandoned baseball field, may provide suitable roosting and maternity sites for bats, including pallid bat (*Antrozous pallidus*), Mexican free-tailed bat (*Tadarida brasiliensis*), and Yuma myotis (*Myotis yumanensis*). The lack of human activity occurring in the vicinity of the foundation since it was abandoned several years ago could increase the potential for bats to roost within the structure.

Federally Protected and State-Protected Wetlands and Waters

A formal delineation of aquatic resources has not been completed for the project area; however, based on the reconnaissance surveys, it appears that potentially jurisdictional aquatic resources may exist there. For the purposes of this EIR, the aquatic resources in the project area are assumed to be jurisdictional under the CWA and state regulations. Potentially jurisdictional aquatic resources include wetland habitats such as freshwater emergent wetlands and riparian woodland, and other aquatic resources such as the pond. These areas may meet the CWA criteria of a wetland or other waters of the United States, depending on site-specific vegetation, soils, and hydrologic conditions, and may be subject to regulation under the CWA. These features may also be protected under State regulations, including the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) and the California Fish and Game Code.

Special-Status Species

Special-status species are legally protected under the federal Endangered Species Act (FESA) and California Endangered Species Act (CESA) or other regulations, or are species that are considered sufficiently rare by the scientific community to qualify for such listing. These species are in the following categories:

1. Species listed or proposed for listing as threatened or endangered under the FESA (Code of Federal Regulations CFR Title 50, Sections 17.12 listed plants and 17.11 listed animals and various notices in the *Federal Register* FR proposed species).

2. Species that are candidates for possible future listing as threatened or endangered under the FESA (61 FR 40, February 28, 1996).

3. Species listed or proposed for listing by the State of California as threatened or endangered under the CESA (California Code of Regulations Title 14, Section 670.5).

4. Plants listed as rare or endangered under the California Native Plant Protection Act (NPPA) (California Fish and Game Code, Section 1900 et seq.).

5. Animal species of special concern to CDFW.

6. Animals fully protected under the California Fish and Game Code (Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

7. Species that meet the definitions of rare and endangered under CEQA. CEQA Section 15380 provides that a plant or animal species may be treated as "rare or endangered" even if not on one of the official lists (CEQA Guidelines, Section 15380).

8. Plants considered by CDFW and CNPS to be "rare, threatened or endangered in California" (California Rare Plant Ranks [CRPRs] 1A, 1B, and 2) as well as CRPR Rank 3 and 4[22] plant species.

A list of special-status species that have the potential to occur in the project vicinity was compiled, based on: data in the CNDDB[23]; the USFWS list of federally listed endangered and threatened species that may occur in the project area, and/or may be affected by the proposed project[24]; and the CNPS Inventory of Rare and Endangered Plants (see **Appendix D**).[25] **Table 4.3-3** provides a list of special-status species, their general habitat requirements, and an assessment of their potential to occur in the project area.

The "Potential for Occurrence" category is defined as follows:

- **Unlikely:** The project site and/or surrounding area do not support suitable habitat for a particular species, or the project site is outside of the species' known range.
- **Low Potential:** The project site and/or immediate area provide only limited amounts and low-quality habitat for a particular species. In addition, the known range for a particular species may be outside of the immediate project site.
- **Medium Potential:** The project site and/or immediate area provide suitable habitat for a particular species.

22 CRPR 3 and 4 plants may be analyzed under CEQA Section 15380 if sufficient information is available to assess potential impacts on such plants. Factors such as regional rarity vs. statewide rarity should be considered in determining whether cumulative impacts on a CRPR 3 or 4 plant are significant even if individual project impacts are not. CRPR 3 and 4 plants may be considered regionally significant if, for example, the occurrence is located at the periphery of the species' range, or exhibits unusual morphology, or occurs in an unusual habitat/substrate. For these reasons, CRPR 3 and 4 plants should be included in the special-status species analysis. CRPR 3 and 4 plants are also included in the California Natural Diversity Database Special Plants, Bryophytes, and Lichens List. (See the current online published list available at: http://www.dfg.ca.gov/biogeodata.)

23 California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.

24 U.S. Fish and Wildlife Service. 2021. List of Threatened and Endangered Species that May Occur in the Proposed Project Location, and/or May be Affected by the Proposed Project. Available: https://ecos.fws.gov/ipac/. Accessed July 13, 2021.

25 California Native Plant Society. 2021. Rare Plant Program. Inventory of Rare and Endangered Plants (online edition, v8-03 0.39). Sacramento, CA. Available: http://rareplants.cnps.org/. Accessed July 13, 2021.

- **High Potential:** The project site and/or immediate area provide ideal habitat conditions for a particular species and/or known populations occur in the immediate area and/or within the project site.

Conclusions regarding habitat suitability and species occurrence are based on the analysis of existing literature and databases described previously and known habitats occurring within the project area and regionally.

Database queries identify 66 special-status plant and wildlife species records. Of these, 41 species were eliminated from further consideration based on a lack of suitable habitat in the project area, or because the project area is outside the known range of the species. Three special-status species have high potential to occur and 14 special-status species have medium potential to occur in the project area. Eight species have low potential to occur in the project area. Species with a medium or high potential to occur are identified in Table 4.3-3 and are described in detail below. Only species classified as having medium or high potential for occurrence were considered in the impact analysis.

Birds

Cooper's Hawk

Cooper's hawk (*Accipiter cooperii*) is on the CDFW Watch List. Cooper's hawks nest in dense forested habitats near freshwater and forage mostly on small birds and mammals, although they will take reptiles and amphibians. Peak breeding season is May through July, although it can occur anytime from March to August. Cooper's hawks use dense wooded stands for breeding and patchy to open woodlands and habitat edges for foraging. They can often be found in live oak and riparian deciduous habitats. Other habitats used frequently include forested habitats near water.[26]

Currently, breeding populations occur in the southern Sierra Nevada foothills, New York Mountains, Owens Valley, and other local areas in Southern California. However, Cooper's hawk occurs anywhere with dense stands of live oak, riparian deciduous, or other forest habitats near water from sea level to 9,000 feet. After breeding, Cooper's hawks migrate from the north to winter throughout woodlands in California.[27]

Suitable nesting habitat occurs within the riparian woodland habitat in the project area, but is not present within the site of the proposed CNU Medical Center. In addition, this species may utilize large trees within the urban habitat on-site for nesting. There is a single CNDDB recorded occurrence of Cooper's hawk within 5 miles of the project area. This species was observed nesting in 1996 along the Natomas East Main Drainage Canal south of the project area.[28] This species was not observed during the reconnaissance-level biological resources surveys conducted within the project area.

[26] Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

[27] Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

[28] California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.

TABLE 4.3-3
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT AREA

Scientific Name	Common Name	Listing Status: Federal/State/Other	Habitat Description	Potential for Occurrence within the Project Area
Amphibians				
Ambystoma californiense	California tiger salamander	FT/ST/--	Grassland, oak savanna, and edges of mixed woodland and lower elevation coniferous forest. Requires temporary breeding ponds to breed. Spends most time underground in animal burrows, especially those of California ground squirrels, valley pocket gophers, and moles. Requires both suitable upland terrestrial habitat with mammal burrows for refuge and temporary breeding ponds in order to survive and reproduce.	**Unlikely**. The project area is outside the current range of this species. No suitable habitat is present for this species within the project area. The pond on-site supports predators such as bullfrogs, which would preclude this species from occurring. Species not known to occur within 5 miles of the project area.
Rana draytonii	California red-legged frog	FT/CSC/--	Found mainly near ponds in humid forests, woodlands, grasslands, coastal scrub, and streamsides with plant cover. Most common in lowlands or foothills. Frequently found in woods adjacent to streams. Breeding habitat is in permanent or ephemeral water sources: lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps. Ephemeral wetland habitats require animal burrows or other moist refuges for estivation when the wetlands are dry.	**Unlikely.** No suitable habitat is present for this species within the project area. The pond that occurs on-site is hydrologically isolated from nearby habitat; additionally, this species is presumed to be extirpated from the valley floor. Species not known to occur within 5 miles of the project area.
Spea hammondii	western spadefoot	--/CSC/--	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	**Low.** Limited and low-quality habitat for this species occurs within the project area. The isolated water feature on-site and the surrounding upland areas are highly disturbed or are developed. Species not known to occur within 5 miles of the project area.
Birds				
Accipiter cooperii	Cooper's hawk	--/WL/--	Woodlands, chiefly of open, interrupted, or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains. Also nests in live oaks.	**Medium.** Suitable nest trees are present within the riparian woodland within the project area. In addition, this species may utilize large trees within the urban habitat on-site for nesting. Species recorded in the CNDDB within 5 miles of the project area.
Agelaius tricolor	tricolored blackbird	--/ST/--	Highly colonial species, most numerous in the Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging areas with insect prey within a few kilometers of the colony.	**Medium.** Suitable nesting and foraging habitat is present within the riparian woodland/freshwater emergent wetland/pond area within the project area. Species recorded in the CNDDB within 5 miles of the project area.
Ammodramus savannarum	grasshopper sparrow	--/CSC/--	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	**Low.** The annual grassland in the project area provides low-quality habitat for this species and is isolated from associated habitat. Species not known to occur within 5 miles of the project area.

TABLE 4.3-3
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT AREA

Scientific Name	Common Name	Listing Status: Federal/State/Other	Habitat Description	Potential for Occurrence within the Project Area
Ardea alba (nesting colony)	great egret	--/--/--	Colonial nester in large trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	**Medium.** Suitable nesting habitat is present within the riparian woodland within the project area. The riparian woodland currently supports black-crowned heron and cattle egret rookeries. Species recorded in the CNDDB within 5 miles of the project area. While there is no formal listing, rookeries are considered a sensitive biological community by the CDFW.
Ardea herodias (nesting colony)	great blue heron	--/--/--	Colonial nester in tall trees, cliff sides, and sequestered spots on marshes. Rookery sites in close proximity to foraging areas: marshes, lake margins, tide-flats, rivers and streams, wet meadows.	**Medium.** Suitable nesting habitat is present within the riparian woodland within the project area. The riparian woodland currently supports black-crowned heron and cattle egret rookeries. Species recorded in the CNDDB within 5 miles of the project area. While there is no formal listing, rookeries are considered a sensitive biological community by the CDFW.
Athene cunicularia	burrowing owl	--/CSC/--	Open, dry, annual or perennial grasslands and scrublands characterized by low-growing vegetation. Subterranean nester dependent upon burrowing mammals, specifically California ground squirrel. May also be found around golf courses, and disturbed/ruderal habitat in urban areas. Forages in open plains, grasslands, and prairies.	**High.** Suitable nesting and foraging habitat occurs in annual grasslands in the northern portion of the project area, and the species is known to occur within the project area. The annual grasslands provide suitable nesting and foraging habitat; numerous ground burrows noted during reconnaissance surveys. Species recorded in the CNDDB within 5 miles of the project area, including a record from within the project area boundary.
Bubulcus ibis (nesting colony)	cattle egret	--/--/--	Breeds in coastal barrier islands, marshes, reservoirs, lakes, quarries, swamps, riverside woodlands, and upland forests. Nests in colonies already established by native herons and egrets, and forage in fields with grazing livestock. Forage in grassland, pastures, and wetlands.	**High.** The riparian woodland in the project area currently supports black-crowned night heron and cattle egret rookeries. Cattle egret nests were observed during surveys conducted on April 2, 2019. While there is no formal listing, rookeries are considered a sensitive biological community by the CDFW.
Buteo swainsoni	Swainson's hawk	--/ST/--	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannas, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands or alfalfa or grain fields supporting rodent populations.	**Medium.** Suitable nesting habitat is present within the riparian woodland and suitable foraging habitat is present within the annual grasslands within the Innovation Park PUD. In addition, this species may utilize large trees within the urban habitat on-site for nesting. Species recorded in the CNDDB within 5 miles of the project area, including a record within 200 feet of the project area.
Charadrius alexandrinus nivosus	western snowy plover	FT/CSC/--	Nests in sandy or gravelly depressions on sandy beaches, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly, or friable soils for nesting.	**Unlikely.** No suitable habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area.

TABLE 4.3-3
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT AREA

Scientific Name	Common Name	Listing Status: Federal/State/Other	Habitat Description	Potential for Occurrence within the Project Area
Charadrius montanus	mountain plover	--/CSC/--	Short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. Prefers short vegetation, bare ground, and flat topography, as well as grazed areas and areas with burrowing rodents.	**Unlikely.** No suitable habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area. The project area is located outside of the species' range.
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FT/SE/--	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with an understory of blackberry, nettles, or wild grape.	**Unlikely.** No suitable habitat is present for this species within the project area. No recent occurrences recorded within 5 miles of the project area. Species historically occurred in the region.
Egretta thula (nesting colony)	snowy egret	--/--/--	Colonial nester, with nest sites situated in protected beds of dense tule. Rookery sites situated close to foraging areas: marshes, tidal flats, streams, wet meadows, and borders of lakes.	**Medium.** Suitable nesting habitat is present within the emergent wetlands and riparian woodland within the project area. The riparian woodland currently supports black-crowned heron and cattle egret rookeries. Species not known to occur within 5 miles of the project area. While there is no formal listing, rookeries are considered a sensitive biological community by the CDFW.
Elanus leucurus	white-tailed kite	--/FP/--	Rolling foothills and valley margins with scattered oaks, and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	**Medium**. Suitable nest trees are present within the riparian woodland within the project area. Annual grassland in the project area provides marginal foraging habitat for this species. Species recorded in the CNDDB within 5 miles of the project area.
Falco columbarius	merlin	--/WL/--	Seacoast, tidal estuaries, open woodlands, savannas, edges of grasslands, deserts, farms, and ranches. Clumps of trees or windbreaks are required for roosting in open country.	**Low**. Species does not breed in California; breeds in Alaska and Canada. Uncommon winter migrant from September to May. Open areas of the project area and patchy ruderal vegetation provide marginal foraging habitat for this species. Species not known to occur within 5 miles of the project area.
Laterallus jamaicensis coturniculus	California black rail	--/ST,FP/--	Majority of population found in the tidal salt marshes of the northern San Francisco Bay region, primarily in San Pablo and Suisun Bays; also found in freshwater marshes in the foothills of the Sierra Nevada.	**Unlikely.** No suitable habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area. The project area is located outside of the species' range.
Melospiza melodia	song sparrow ("Modesto" population)	--/CSC/--	Emergent freshwater marshes dominated by tule and cattail as well as riparian willow thickets. Also nests in riparian forests of valley oak with a sufficient understory of blackberry, along vegetated irrigation canals and levees, and in recently planted valley oak restoration sites.	**Medium.** Suitable nesting and foraging habitat is present within the riparian woodland/freshwater emergent wetland/pond area within the project area. Species recorded in the CNDDB within 5 miles of the project area.

TABLE 4.3-3
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT AREA

Scientific Name	Common Name	Listing Status: Federal/State/Other	Habitat Description	Potential for Occurrence within the Project Area
Nycticorax nycticorax (nesting colony)	black-crowned night heron	--/--/--	Colonial nester, usually in trees, occasionally in tule patches. Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots.	**High.** The riparian woodland in the project area currently supports black-crowned night heron and cattle egret rookeries. Approximately 100 black-crowned night heron nests were observed during surveys conducted on April 2, 2019.
Plegadis chihi	white-faced ibis	--/WL/--	Shallow freshwater marsh. Dense tule thickets for nesting interspersed with areas of shallow water for foraging.	**Medium.** Suitable nesting and foraging habitat is present within the riparian woodland/freshwater emergent wetland/pond area within the project area. Species not known to occur within 5 miles of the project area.
Progne subis	purple martin	--/CSC/--	Inhabits woodlands, low-elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine. Nests primarily in old woodpecker cavities, also in human-made structures. Nest often located in tall, isolated tree/snag.	**Medium**. Although the trees within the project area provide only low-quality nesting habitat for this species, existing structures including the foundation for the partially constructed baseball field and stadium provide suitable nesting habitat. Species recorded in the CNDDB within 5 miles of the project area.
Riparia riparia	bank swallow	--/ST/--	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, and ocean to dig nesting holes.	**Unlikely.** No suitable nesting habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area.
Vireo bellii pusillus	least Bell's vireo	FE/SE/--	Summer resident of Southern California in low riparian areas in vicinity of water or in dry river bottoms; below 2,000 feet. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, *Baccharis* sp., and mesquite.	**Low.** The riparian habitat in the project area is of low quality for this species and is isolated from associated habitat. Species is known to occur along South Fork Putah Creek, Putah Creek, Putah Creek sinks, in the vicinity of the Yolo Bypass Wildlife Area.
Fish				
Archoplites interruptus	Sacramento perch	--/CSC/--	Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley. Prefers warm water. Aquatic vegetation is essential for young. Tolerates wide range of physio-chemical water conditions.	**Unlikely.** No suitable habitat is present within the project area.
Hypomesus transpacificus	Delta smelt	FT/SE/--	Open surface waters in the Sacramento–San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay. Found in Delta estuaries with dense aquatic vegetation and low occurrence of predators. May be affected by downstream sedimentation.	**Unlikely.** No suitable habitat is present within the project area.

TABLE 4.3-3
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT AREA

Scientific Name	Common Name	Listing Status: Federal/State/Other	Habitat Description	Potential for Occurrence within the Project Area
Oncorhynchus mykiss	Central Valley steelhead	FT/--/--	This evolutionarily significant unit enters the Sacramento and San Joaquin Rivers and their tributaries from July to May; spawning occurs from December to April. Young move to rearing areas in and through the Sacramento and San Joaquin Rivers, Delta, and San Pablo and San Francisco Bays.	**Unlikely.** No suitable habitat is present within the project area.
Oncorhynchus tshawytscha	Chinook salmon–Sacramento River winter-run ESU	FE/SE/--	Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temperatures greater than 27°C is lethal to adults. Federal listing refers to populations spawning in the Sacramento River and tributaries.	**Unlikely.** No suitable habitat is present within the project area.
Oncorhynchus tshawytscha	Chinook salmon–Central Valley spring-run ESU	FT/ST/--	Sacramento River below Keswick Dam. Spawns in the Sacramento River but not in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6°C and 14°C for spawning.	**Unlikely.** No suitable habitat is present within the project area.
Pogonichthys macrolepidotus	Sacramento splittail	--/CSC/--	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay, and associated marshes. Prefers slow moving river sections and dead end sloughs. Requires flooded vegetation for spawning and foraging for young.	**Unlikely.** No suitable habitat is present within the project area.
Spirinchus thaleichthys	longfin smelt	FC/ST/--	Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15–30 parts per thousand, but can be found in completely freshwater to almost pure seawater.	**Unlikely.** No suitable habitat is present within the project area.
Thaleichthys pacificus	eulachon	FT/--/--	Found in the Klamath River, Mad River, Redwood Creek, and, in small numbers, in Smith River and Humboldt Bay tributaries. Spawns in lower reaches of coastal rivers with moderate water velocities and bottom of pea-sized gravel, sand, and woody debris.	**Unlikely.** No suitable habitat is present within the project area.

TABLE 4.3-3
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT AREA

Scientific Name	Common Name	Listing Status: Federal/State/Other	Habitat Description	Potential for Occurrence within the Project Area
Invertebrates				
Bombus crotchii	Crotch bumble bee	--/SC/--	Crotch bumble bee is nearly endemic to California, historically ranging across Southern California, from the coast and Coast Ranges, through the Central Valley, and to the adjacent foothills. This species inhabits open grassland and scrub habitats. It was historically common in the Central Valley where this type of habitat was previously abundant, but it has been largely extirpated from the region because of habitat loss and fragmentation. Like all bumble bees, this species requires floral resources, and undisturbed nest sites and overwintering sites.[a]	**Unlikely.** The annual grassland in the project area provides low-quality habitat for this species. However, the project area is outside of the current known range of the species.
Bombus occidentalis	Western bumble bee	--/SC/--	Formerly found in much of California, the Western bumble bee is now much reduced in abundance and mostly restricted to high-elevation meadows or coastal environments. The Central Valley was mostly excluded from its prior range, and it is now thought to be extirpated from the region. Western bumble bees nest, forage, and overwinter in meadows and grasslands with abundant floral resources. Like all bumble bees, this species requires floral resources, and undisturbed nest sites and overwintering sites.[a]	**Unlikely.** The annual grassland in the project area provides low-quality habitat for this species. However, the project area is outside of the current known range of the species.
Branchinecta lynchi	vernal pool fairy shrimp	FT/--/--	Endemic to the grasslands of the Central Valley, central coast mountains, and south coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	**Unlikely.** No suitable habitat is present for this species within the project area. Species recorded in the CNDDB within 5 miles of the project area.
Cicindela hirticollis abrupta	Sacramento Valley tiger beetle	--/--/--	Sandy floodplain habitat in the Sacramento Valley. No beetles located during intensive 2001–2004 surveys. Requires fine to medium sand, terraced floodplains, or low sandy water edge flats.	**Unlikely.** No suitable habitat is present for this species within the project area. Species recorded in the CNDDB within 5 miles of the project area.
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT/--/--	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus nigra* ssp. *caerulea*). Prefers to lay eggs in elderberry shrubs 2–8 inches in diameter; some preference shown for "stressed" elderberries.	**Unlikely.** No suitable habitat is present for this species within the project area. No elderberry shrubs were noted within the project area during biological resources surveys conducted for the project. Species recorded in the CNDDB within 5 miles of the project area.
Lepidurus packardi	vernal pool tadpole shrimp	FE/--/--	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	**Unlikely.** No suitable habitat is present for this species within the project area. Species recorded in the CNDDB within 5 miles of the project area.

TABLE 4.3-3
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT AREA

Scientific Name	Common Name	Listing Status: Federal/State/Other	Habitat Description	Potential for Occurrence within the Project Area
Linderiella occidentalis	California linderiella	--/--/--	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan, or in sandstone depressions. Water in the pools has very low alkalinity, conductivity, and total dissolved solids.	**Unlikely.** No suitable habitat is present for this species within the project area. Species recorded in the CNDDB within 5 miles of the project area.
Myrmosula pacifica	Antioch multilid wasp	--/--/--	Exact habitat requirements not known, but typically associated with sandy habitats like dunes. May be from sandy areas near Putah Creek.	**Unlikely.** No suitable habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area.
Mammals				
Antrozous pallidus	pallid bat	--/CSC/--	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Medium.** Buildings and trees present in project area could provide suitable roosting habitat. Species not known to occur within 5 miles of the project area.
Lasionycteris noctivagans	silver-haired bat	--/--/--	Primarily a coastal and montane forest dweller feeding over streams, ponds, and open brushy areas. Roosts in hollow trees, beneath exfoliating bark, abandoned woodpecker holes, and rarely under rocks.	**Low.** Species' range typically includes coastal and montane forests from the Oregon border south along the coast to San Francisco Bay and along the Sierra Nevada and Great Basin region to Inyo County. It is unlikely to occur in the project area. Species not known to occur within 5 miles of the project area. Species may be present during migration in the Sacramento area.
Lasiurus blossevillii	Western red bat	--/CSC/--	Roosts primarily in trees, 0–40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**Medium**. Trees present in project area could provide suitable roosting habitat. Species not known to occur within 5 miles of the project area.
Lasiurus cinereus	hoary bat	--/--/--	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths.	**Medium.** Trees present in project area could provide suitable roosting habitat. Species recorded in the CNDDB within 5 miles of the project area.
Taxidea taxus	American badger	--/CSC/--	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils, and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	**Low.** Marginal burrowing and foraging habitat occurs in annual grasslands in the project area; however, the site is isolated from associated habitat. Species not known to occur within 5 miles of the project area.

TABLE 4.3-3
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT AREA

Scientific Name	Common Name	Listing Status: Federal/State/Other	Habitat Description	Potential for Occurrence within the Project Area
Reptiles				
Emys marmorata	western pond turtle	--/CSC/--	A thoroughly aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation, below 6,000 feet elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometer from water for egg-laying.	**Low.** Suitable aquatic habitat is present within the project area in the lacustrine/freshwater emergent wetland within the project area, while surrounding habitats provide low-quality basking sites. However, the aquatic habitat in the project area is isolated from dispersal habitat and it would require that this species travel overland across streets to utilize the site. Species not known to occur within 5 miles of the project area.
Thamnophis gigas	giant garter snake	FT/ST/--	Prefers freshwater marsh and low-gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the garter snakes in California.	**Low**. There are three CNDDB occurrences of GGS recorded within 1,000 feet of the project area. All three of these records, documented between 1986 and 1987, state that their presence is likely extirpated. The nearest extant CNDDB occurrences are from 1986 and 2006 and are a mile south and southwest of the Innovation Park PUD. The land uses between these occurrences and the Innovation Park PUD include multiple paved roads and highways and residential and commercial development. According to GGS Specialist Biologist Joseph Huang (USFWS Section 10(a)(1)(A) Recovery Permit holder for GGS (TE-56034B-0) (Joseph Huang, ESA, pers. comm.), the project area provides low-quality habitat for GGS. The pond provides low-quality aquatic habitat given that it is a permanent man-made feature that contains bullfrogs (predators of GGS) that lacks a connection with any low-gradient streams. In addition, the pond has been periodically drained in the past, which eliminates suitable aquatic habitat in the project area for this species. The project area provides marginal to no suitable upland habitat due to the steep banks surrounding the pond, which are covered with dense herbaceous vegetation with few small-mammal burrows. Because there are no extant CNDDB occurrences within 1 mile, and because the project area lacks suitable upland and aquatic habitat required for GGS to reside, and there is no dispersal habitat between the CNDDB occurrences and the project area, this species has a low likelihood to occur within the project area.

TABLE 4.3-3
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT AREA

Scientific Name	Common Name	Listing Status: Federal/State/Other	Habitat Description	Potential for Occurrence within the Project Area
Plants				
Astragalus pauperculus	depauperate milk-vetch	--/--/4.3	Annual herb found in vernally mesic, thin soils of red sand or clay of volcanic origin soils in chaparral, cismontane woodland, and annual grasslands. Blooms March–June. Elevations range from 60 to 1,125 meters.	**Unlikely.** No suitable habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area.
Astragalus tener var. *ferrisiae*	Ferris' milk-vetch	--/--/1B.1	Annual herb found in meadows and seeps and subalkaline flats within annual grasslands. Usually found in dry, adobe soils. Blooms April–May. Elevations below 75 meters.	**Unlikely.** No suitable habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area.
Astragalus tener var. *tener*	alkali milk-vetch	--/--/1B.2	Annual herb found in alkaline soils in low ground, alkali flats, and flooded lands in playas, annual grasslands, and vernal pools. Blooms March–June. Elevations below 60 meters.	**Unlikely.** No suitable habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area.
Atriplex cordulata var. *cordulata*	heartscale	--/--/1B.2	Annual herb found in saline or alkaline soils in chenopod scrub, meadows and seeps, and sandy flats in annual grasslands. Blooms April–October. Elevations below 560 meters.	**Unlikely.** No suitable habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area.
Atriplex depressa	brittlescale	--/--/1B.2	Annual herb usually found in alkaline and clay soils in chenopod scrub, meadows and seeps, playas, and annual grassland. Rarely associated with riparian, marshes, and vernal pools. Blooms April–October. Elevations below 320 meters.	**Unlikely.** No suitable habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area.
Brodiaea rosea subsp. *vallicola*	valley brodiaea	4.2	Perennial bulbiferous herb found on silty, sandy, and gravelly loam on mesic sites including old alluvial terraces, swales, and vernal pools. Blooms April–May. Elevations range from 10 to 335 meters.	**Unlikely.** No suitable habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area.
Centromadia parryi subsp. *parryi*	pappose tarplant	--/--/1B.2	Annual herb found on mesic, often alkaline sites in seeps, alkaline springs, coastal salt marshes, and grasslands. Blooms May–November. Elevations below 420 meters.	**Unlikely.** No suitable habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area.
Centromadia parryi subsp. *rudis*	Parry's rough tarplant	--/--/4.2	Annual herb occurring in alkaline, vernally mesic seeps and roadsides. Blooms May–October. Elevations below 100 meters.	**Unlikely.** No suitable habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area.
Chloropyron palmatum	palmate-bracted bird's-beak	FE/SE/1B.1	Annual hemiparastiic herb found in alkaline clay soils in chenopod scrub and flats within annual grassland. Blooms May–October. Elevations range from 5 to 155 meters.	**Unlikely.** No suitable habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area.

TABLE 4.3-3
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT AREA

Scientific Name	Common Name	Listing Status: Federal/State/Other	Habitat Description	Potential for Occurrence within the Project Area
Downingia pusilla	dwarf downingia	--/--/2B.2	Annual herb that prefers lake margins, vernal pools, and wet places, sometimes playas and grasslands. Blooms March–May. Found below 445 meters in elevation.	**Unlikely.** No suitable habitat is present for this species within the project area. Species recorded in the CNDDB within 5 miles of the project area.
Extriplex joaquiniana	San Joaquin spearscale	--/--/1B.2	Annual herb found in alkaline soils in alkali wetlands or alkali sinks in chenopod scrub, meadows and seeps, playas, and flats within annual grasslands. Blooms April–October. Elevations below 835 meters.	**Unlikely.** No suitable habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area.
Fritillaria agrestis	stinkbells	--/--/4.2	Perennial bulbiferous herb found in clay and sometimes serpentine soils in chaparral, cismontane woodland, pinyon and juniper woodland, and annual grasslands. Mostly found in nonnative grassland or in grassy openings in clay soil. Blooms March–June. Elevations range from 10 to 1,555 meters.	**Medium.** Suitable habitat is present in the annual grasslands in the project area. Species recorded in the CNDDB within 5 miles of the project area.
Gratiola heterosepala	Boggs Lake hedge-hyssop	--/SE/1B.2	Annual herb found in clay substrates, usually in vernal pools, sometimes on lake margins and marshes and swamps. Blooms April–August. Found between 10 and 2,375 meters in elevation.	**Unlikely.** No suitable habitat is present for this species within the project area. Species recorded in the CNDDB within 5 miles of the project area.
Hibiscus lasiocarpos var. *occidentalis*	woolly rose-mallow	--/--/1B.2	Perennial rhizomatous herb found in moist, freshwater-soaked river banks and low peat islands in sloughs; often in riprap on sides of levees. In California, known from the Delta watershed. Blooms June–September. Elevations below 120 meters.	**Unlikely.** No suitable habitat is present for this species within the project area. Species recorded in the CNDDB within 5 miles of the project area.
Legenere limosa	legenere	--/--/1B.1	Annual herb occurring in vernal pool beds. Blooms April–June. Found below 880 meters in elevation.	**Unlikely.** No suitable habitat is present for this species within the project area. Species recorded in the CNDDB within 5 miles of the project area.
Lepidium latipes var. *heckardii*	Heckard's pepper-grass	--/--/1B.2	Annual herb found in alkaline flats in annual grasslands and sometimes vernal pool edges. Blooms March–May. Elevations below 200 meters.	**Unlikely.** No suitable habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area.
Puccinellia simplex	California alkali grass	--/--/1B.2	Annual herb found in vernally mesic sites including saline flats and mineral springs. Blooms March–May. Elevations below 930 meters.	**Unlikely.** No suitable habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area.
Sagittaria sanfordii	Sanford's arrowhead	--/--/1B.2	Perennial rhizomatous herb found in assorted freshwater habitats including marshes, swamps, and seasonal drainages. Blooms May–November. Found below 650 meters in elevation.	**Medium.** Suitable habitat is present in the emergent wetlands within the project area. Species recorded in the CNDDB within 5 miles of the project area.

TABLE 4.3-3
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR IN THE PROJECT AREA

Scientific Name	Common Name	Listing Status: Federal/State/Other	Habitat Description	Potential for Occurrence within the Project Area
Symphyotrichum lentum	Suisun Marsh aster	--/--/1B.2	Perennial rhizomatous herb found in brackish and freshwater marshes and swamps. Blooms April–November. Elevations below 3 meters.	**Unlikely.** No suitable habitat is present for this species within the project area. Species recorded in the CNDDB within 5 miles of the project area.
Trifolium hydrophilum	saline clover	--/--/1B.2	Annual herb occurring in salt marshes and open areas in alkaline soils. Blooms April–June. Elevations below 300 meters.	**Unlikely.** No suitable habitat is present for this species within the project area. Species not known to occur within 5 miles of the project area.

NOTES: °C = degrees Celsius; CNDDB = California Natural Diversity Database; CNU Medical Center = California Northstate University Medical Center; Delta = Sacramento–San Joaquin Delta; ESU = evolutionarily significant unit; GGS = giant garter snake; PUD = Planned Unit Development; USFWS = U.S. Fish and Wildlife Service

KEY:

Federal: (USFWS)

FE = Listed as Endangered by the Federal Government
FT = Listed as Threatened by the Federal Government
FC = Candidate for listing by the Federal Government

State: (CDFW)

SE = Listed as Endangered by the State of California
ST = Listed as Threatened by the State of California
SR = Listed as Rare by the State of California (plants only)
SC = Candidate for listing by the State of California
CSC = California Species of Special Concern
FP = CDFW Fully Protected Species
WL = Species on the CDFW Watch List

CRPR: (California Rare Plant Rank)

Rank 1A = Plants presumed extinct in California
Rank 1B = Plants rare, threatened, or endangered in California and elsewhere
Rank 2 = Plants rare, threatened, or endangered in California but more common elsewhere
Rank 3 = Need more information
Rank 4 = Limited distribution – a watch list
0.1 = Seriously endangered in California
0.2 = Fairly endangered in California
0.3 = Not very endangered in California
– = No Listing

SOURCES:

California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.
California Native Plant Society. 2021. Rare Plant Program. Inventory of Rare and Endangered Plants (online edition, v8-03 0.39). California Native Plant Society. Sacramento, CA. Available: http://rareplants.cnps.org/. Accessed July 13, 2021
U.S. Fish and Wildlife Service. 2021. List of Threatened and Endangered Species that May Occur in the Proposed Project Location, and/or May be Affected by the Proposed Project. Available: https://ecos.fws.gov/ipac/. Accessed July 13, 2021.
a California Department of Fish and Wildlife. 2019. *Report to the Fish and Game Commission: Evaluation of the Petition from the Xerces Society, Defenders of Wildlife, and the Center for Food Safety to List Four Species of Bumble Bees as Endangered under the California Endangered Species Act.* Sacramento, CA.

Tricolored Blackbird

Tricolored blackbird (*Agelaius tricolor*) is a candidate for listing under the CESA, and is a California Species of Special Concern. Tricolored blackbirds are a colonial species that nest in dense vegetation in and around freshwater wetlands. When nesting, tricolored blackbirds generally require freshwater wetland areas large enough to support colonies of 50 pairs or more. They prefer freshwater emergent wetlands with tall, dense cattails or tules for nesting, but will also breed in thickets of willow, blackberry, wild rose, or tall herbs. During the nonbreeding season, flocks are highly mobile and forage in grasslands, croplands, and wetlands.[29]

Tricolored blackbirds are locally common throughout the Central Valley and coastal areas south of Sonoma County. This species breeds locally in northeastern California. In winter, tricolored blackbirds become more widespread along the central coast and San Francisco Bay area.

Potential nesting habitat is present in the emergent wetlands and riparian woodland within the project area, but is not present within the site of the proposed CNU Medical Center. This species could utilize the pond, wetlands, and annual grasslands for foraging. There are three CNDDB recorded occurrences of tricolored blackbird within 5 miles of the project area.[30] This species was not observed during the reconnaissance-level biological resources surveys conducted within the project area.

Great Egret

The great egret is a large, white heron with long black legs and feet. Its bill is long, stout, yellow, and straight. The great egret nests in colonies with other species in shrubs and trees associated with water and sometimes on islands. It feeds in wetlands, including swamps, marshes, streams, rivers, ponds, lakes, tide flats, canals, and flooded agricultural fields. It requires groves of trees suitable for nesting and roosting, relatively isolated from human activities, near aquatic foraging sites. Nesting colonies must be isolated from human activities or parents may abandon the nest. This species' diet consists of fish, invertebrates, amphibians, reptiles, birds, and small mammals.[31]

The great egret is a common yearlong resident throughout California, except for high mountains and deserts. In Northern California, it is found in coastal lowlands, inland valleys, and the Central Valley. It is locally abundant March to July near large nesting colonies.[32] This species is not state or federally listed but is protected under the Migratory Bird Treaty Act (MBTA) and Sections 3503 and 3505 of the California Fish and Game Code.

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29 Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

30 California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.

31 Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

32 Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

Suitable nesting habitat occurs within the riparian woodland habitat within the project area, but is not present within the site of the proposed CNU Medical Center. There are three CNDDB recorded occurrences of great egret within 5 miles of the project area. A 2016 CNDDB occurrence documents a large rookery along the Sacramento River east of the project area. In addition, rookeries were observed along Dry Creek and Robla Creek east of the project area. All of these rookery sites are shared with great blue herons and other birds.[33] This species was not observed during the reconnaissance-level biological resources surveys conducted within the project area.

Great Blue Heron

Great blue heron (*Ardea herodias*) is the largest species of heron in North America. This species is not federally listed or state-listed, but is protected under the MBTA and Sections 3503 and 3505 of the California Fish and Game Code. Great blue herons have gray upper bodies and their necks are streaked with white, black, and rust-brown. They have very long necks and males have a puffy plume of feathers behind their heads. Great blue herons usually nest in colonies in tops of secluded large snags or live trees, usually among the tallest available. This species rarely nests on ground, rock ledges, sea cliffs, mats of tules, or shrubs. Colonies should be protected from human disturbance, which often causes nest desertion. They usually arrive on breeding grounds in February, and courtship and nest building begin shortly thereafter. Eggs are laid in late February or March, with incubation lasting about 28 days. Their diet consists mostly of fish, but great blue heron also feeds on small rodents, amphibians, snakes, lizards, insects, crustaceans, and occasionally small birds.[34]

The great blue heron is fairly common all year throughout most of California, in shallow estuaries and fresh and saline emergent wetlands. They are less common along riverine and rocky marine shores, in croplands, pastures, and in mountains above foothills. They are active throughout the year, feeding both night and day, but are most active around dawn and dusk.[35]

Suitable nesting habitat occurs within the riparian woodland habitat within the project area, but is not present within the site of the proposed CNU Medical Center. There are five CNDDB recorded occurrences of great blue heron within 5 miles of the project area. A 2016 CNDDB occurrence documents a large rookery along the Sacramento River east of the project area. In addition, rookeries were observed along Dry Creek and Robla Creek east of the project area.[36] This species was not observed during the reconnaissance-level biological resources surveys conducted within

[33] California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.

[34] Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

[35] Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

[36] California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.

the project area in 2015 and 2019. This species was observed foraging in the pond during the August 20, 2021, biological resources survey.

Burrowing Owl

Burrowing owl (*Athene cunicularia*), a California Species of Special Concern, is a small diurnal owl that nests underground in the burrows of small mammals, especially those of ground squirrels. Culverts and other human-made structures may also be suitable habitat for the burrowing owl. Often a burrowing owl will occupy several burrows in an area. In the Central Valley, the burrowing owl is a year-round resident of open spaces such as grasslands, agricultural fields, air fields, and levees. Vegetation must be very short or very sparse to be suitable habitat for burrowing owl. Breeding peaks from April to May, but can occur from March to August. The burrowing owl forages on insects and small mammals and will also consume reptiles, birds, and carrion.[37]

Suitable habitat occurs in the annual grasslands within the northern portion of the project area, but is not present within the site of the proposed CNU Medical Center. There are 17 CNDDB recorded occurrences of burrowing owl within 5 miles of the project area, including one within the project area boundaries and another immediately adjacent to the project area. A 2007 occurrence documents approximately 20 burrowing owls utilizing ground squirrel burrows in grassy knolls within and adjacent to Parking Lot H at The Sleep Train Arena. Another CNDDB occurrence from 2012 documents 11 individuals in annual grassland west of East Commerce Way immediately adjacent to West Entrance Road.[38] This species was not observed during the reconnaissance-level biological resources surveys conducted within the project area.

Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is listed as a threatened species under the CESA. This raptor is found primarily in open country, foraging in grasslands and agricultural fields, especially after disking or harvest. They use tall riparian trees (typically oaks or cottonwoods) for nesting, but will occasionally nest in large eucalyptus or other large ornamental trees if suitable foraging habitat is present nearby. The species has lost much of its former nesting habitat as a result of the significant reduction in riparian woodland and forest habitat throughout the state over the last 100 years, and is losing foraging habitat to urban development.[39]

Swainson's hawks can forage as far as 20 miles from the nest. Suitable foraging habitat is defined as annual grasslands, fallow fields, dry and irrigated pasture, and a variety of croplands including alfalfa, beet, tomato and other low-growing row or field crops, rice (when not flooded), and cereal grain crops (including corn after harvest). When forced to travel greater distances from the

[37] Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

[38] California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.

[39] Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

nest, the adults must expend much more time and energy gathering food, leaving the eggs and young in the nests much more vulnerable to predation and the elements.[40]

Suitable nesting habitat occurs within the riparian woodland habitat within the project area. Suitable foraging habitat is present within the annual grasslands within the project area, but is not present within the site of the proposed CNU Medical Center. In addition, this species may utilize large trees within the urban habitat on-site for nesting. There are 48 CNDDB recorded occurrences of Swainson's hawk within 5 miles of the project area, including one approximately 200 feet north of the project area just north of Del Paso Road. This 2000 CNDDB occurrence documents a pair of nesting hawks in a willow tree.[41] This species was not observed during the reconnaissance-level biological resources surveys conducted within the project area.

Snowy Egret

Snowy egret (*Egretta thula*) is a medium-sized, slender white heron, very similar in appearance to the great egret. In contrast to the great egret, the snowy egret has black legs and yellow feet and a long, thin, dark bill. Its neck is long and thin and eyes are yellow. The snowy egret is widespread in California along shores of coastal estuaries, fresh and saline emergent wetlands, ponds, slow-moving rivers, irrigation ditches, and wet fields. In Northern California, it is common from March to November in coast lowlands, and locally common in the Central Valley all year. It nests in marshes or in the lower branches of adjacent trees. This species' diet consists of earthworms, annelid worms, aquatic and terrestrial insects, crabs, shrimps, crayfish, snails, freshwater and marine fish, frogs, toads, lizards, and snakes.[42] This species is not federally listed or state-listed but is protected under the MBTA and Sections 3503 and 3505 of the California Fish and Game Code.

Suitable nesting habitat occurs within the riparian woodland habitat within the project area, but is not present within the site of the proposed CNU Medical Center. There are no records of the snowy egret from the CNDDB within 5 miles of the project area.[43] This species was not observed during the reconnaissance-level biological resources surveys conducted within the project area.

White-Tailed Kite

The white-tailed kite (*Elanus leucurus*) is listed as a "fully protected" raptor under Section 3511 of the California Fish and Game Code. The white-tailed kite is a year-round resident in central California. It typically nests in oak woodlands or trees, especially along marshes or river margins, and may use any suitable tree or shrub that is of moderate height. Its nesting season may begin as early as February and extends into August. This raptor forages during the day for rodents—

40 Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

41 California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.

42 Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

43 California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.

especially voles—in wet or dry grasslands and fields. White-tailed kites forage characteristically by hovering over the location of a potential prey item. Although, like other raptors, kites build solitary nests, they often roost, and occasionally nest communally, especially during the nonbreeding season.[44]

Disturbance of a relatively small roost or nesting area could affect a large number of birds. The white-tailed kite can commonly be observed foraging in open grasslands throughout the region, but breeding sites are primarily located near riparian corridors along the Sacramento and American Rivers. Suitable nesting habitat occurs within the riparian woodland habitat within the project area, but is not present within the site of the proposed CNU Medical Center, and the adjacent annual grassland provides marginal foraging habitat. There are eight CNDDB recorded occurrences of white-tailed kite within 5 miles of the project area, although none are within the project area boundaries. This includes four occurrences along the Dry and Robla Creeks approximately 2 miles east of the project area.[45] This species was not observed during the reconnaissance-level biological resources surveys conducted within the project area.

Song Sparrow ("Modesto" Population)

The Modesto song sparrow (*Melospiza melodia*), a California Species of Special Concern, is a year-round resident in California and is locally numerous in the Sacramento Valley, the Sacramento–San Joaquin Delta, and the northern San Joaquin Valley.[46] Throughout the year, Modesto song sparrows prefer riparian and freshwater emergent wetlands and marshes. This species requires riparian thickets of willows, other shrubs, vines, tall herbs, and in fresh emergent vegetation for breeding. Nests are built on the ground and in shrubs, thickets, emergent vegetation, and small trees within 4 feet of the ground. The species is seldom found in densely wooded habitats. Its diet consists primarily of seeds, but song sparrows also consume insects, spiders, and other small invertebrates.[47]

Suitable nesting habitat occurs within the emergent wetlands and riparian woodland habitat within the project area, but is not present within the site of the proposed CNU Medical Center. There are no records of the Modesto song sparrow from the CNDDB within 5 miles of the project area.[48] This species was not observed during the reconnaissance-level biological resources surveys conducted within the project area.

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44 Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

45 California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.

46 Shuford, W. D., and Gardali, T. (eds.). 2008. *California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California.* Studies of Western Birds 1. Camarillo and Sacramento, CA: Western Field Ornithologists and California Department of Fish and Game. Pages 400–404.

47 Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

48 California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.

Cattle Egret

Cattle egret (*Bubulcus ibis*) is not federally listed or state-listed but is protected under the MBTA. Cattle egret breed in coastal barrier islands, marshes, reservoirs, lakes, quarries, swamps, riverside woodlands, and upland forests. They nest in colonies already established by native herons and egrets, and forage in fields with grazing livestock.

Suitable nesting habitat occurs within the riparian woodland habitat in the project area. During surveys conducted in the project area in April 2019, approximately five active cattle egret nests were observed in the riparian woodland habitat. There are no additional records of cattle egret from the CNDDB within 5 miles of the project area.[49]

Black-Crowned Night Heron

Black-crowned night heron (*Nycticorax nycticorax*) is not federally listed or state-listed but is protected under the MBTA. These herons usually nest and roost in colonies in dense-foliaged trees and dense emergent wetlands, or dense shrubbery or vine tangles, usually near aquatic or emergent feeding areas. Nests are built of twigs and/or marsh plants. This species breeds from February to July. Black-crowned night herons have a highly variable diet consisting of fish, crustaceans, aquatic insects and other invertebrates, amphibians, reptiles, and small mammals. The black-crowned night heron is a fairly common, yearlong resident in lowlands and foothills throughout most of California, including the Salton Sea and Colorado River areas, and very common locally in large nesting colonies.[50]

Suitable nesting habitat occurs within the riparian woodland habitat in the project area, and these woodlands currently support black-crowned heron and cattle egret rookeries. During surveys conducted in the project area in April 2019, approximately 100 active black-crowned night heron nests and five active cattle egret nests were observed in the riparian woodland habitat. There are no additional records of black-crowned night heron from the CNDDB within 5 miles of the project area.[51]

White-Faced Ibis

The white-faced ibis (*Plegadis chihi*) is an uncommon summer resident in sections of Southern California, is a rare visitor to the Central Valley, and is more widespread during migration. It prefers to feed in freshwater emergent wetlands, shallow lacustrine waters, muddy ground of wet meadows, and irrigated or flooded pastures and croplands. It nests in dense, freshwater emergent wetlands. Nests are made of dead tules or cattails, and are built amidst tall marsh plants,

[49] California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.

[50] Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

[51] California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.

sometimes on mounds of vegetation. The diet of the white-faced ibis consists of earthworms, insects, crustaceans, amphibians, small fish, and miscellaneous invertebrates.[52]

Suitable nesting habitat occurs within the freshwater emergent wetlands within the project area, but is not present within the site of the proposed CNU Medical Center. There are no records of the white-faced ibis from the CNDDB within 5 miles of the project area.[53] This species was not observed during the reconnaissance-level biological resources surveys conducted within the project area.

Purple Martin

The purple martin (*Progne subis*) can be found throughout nearly the entire United States east of the Rocky Mountains. Although declining in many western states, it is also found in isolated areas of Canada, Oregon, Washington, California, Utah, Colorado, Arizona, New Mexico, and Mexico. In California it is a Species of Special Concern. The species is an early spring migrant from its wintering grounds in South America. Generally, purple martins inhabit open areas with an open water source nearby. Martins adapt well in and around people, but are out-competed by starlings (*Sturnus vulgaris*) and sparrows in urban areas. Purple martins are colonial cavity nesters in abandoned woodpecker holes, human-made nest boxes, or cavities in other structures such as bridges and overpasses. Once established at a nest location, martins usually come back to the same site every year.[54]

Since the mid-1900s, purple martin has been eliminated from most of California's Central Valley. The last known populations of purple martin in the Central Valley nest in elevated roadways (i.e., bridges) in the City of Sacramento. Many factors are thought to be contributing to the current downward trend in the Sacramento region's martin population. A major factor is thought to be the alteration of habitat around known nest sites including localized predation by feral cats and/or American kestrels (*Falco sparverius*), removal of perch sites, loss of nest material collection sites, and exclusion of nest sites during construction projects. Other factors contributing to the decline in martin populations in the Sacramento region may include mortality as a result of West Nile virus, increased nest site competition with starlings, and mortality of individuals from vehicle collisions with light rail and freight trains, and motor vehicles. In addition, experts have recently begun to analyze the possible negative effects of neonicotinoid pesticides on martins and their food source (i.e., flying insects). Without significant reversal of current trends, it is predicted that the Sacramento region's purple martin population could disappear in the near future.[55]

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52 Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

53 California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.

54 Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

55 Airola, D. A., B. Cousens, and D. Kopp. 2014. Accelerating Decline of the Sacramento Purple Martin Breeding Population in 2014: What are the Possible Causes? *Central Valley Bird Club Bulletin*, Winter 2014.

The foundation for the partially constructed baseball field and stadium provides suitable nesting habitat for this species within the project area, but the species is not present within the site of the proposed CNU Medical Center. There are two CNDDB recorded occurrences of purple martin within 5 miles of the project area, including known nest locations under the elevated I Street Bridge viaduct and I-5 on-ramp, and under the El Camino Avenue overpass of the Union Pacific Railroad tracks.[56] This species was not observed during the reconnaissance-level biological resources surveys conducted within the project area.

Common Raptor Species

Common raptor species, such as the red-tailed hawk (*Buteo jamaicensis*), are not considered special-status species because they are not rare or protected under the FESA or CESA. However, nests of these species are protected under the MBTA and Section 3503.5 of the California Fish and Game Code. Common raptor species may nest in trees located in the riparian woodland habitat within the project area. In addition, common raptors may utilize large trees within the urban habitat within the entire project area for nesting.

Common Migratory Birds

A large number of common bird species are migratory and are afforded protection under the MBTA. Examples of common migratory bird species that may use the project area include northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), cliff swallow (*Petrochelidon pyrrhonota*), and western kingbird (*Tyrannus verticalis*). Five active cattle egret nests were observed in the riparian woodland habitat during the April 2019 survey.

Occupied nests of all migratory birds are protected under the MBTA, which makes it illegal to destroy any active migratory bird nest. In addition, under Section 3503 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code or any regulation made pursuant thereto. Section 3503.5 of the California Fish and Game Code prohibits take, possession, or destruction of any birds in the orders Falconiformes (hawks) or Strigiformes (owls), or of their nests and eggs. Migratory non-game birds are protected under Section 3800, while other specified birds are protected under Section 3505.

Mammals

Special-Status Bats

Special-status bat species with the potential to occur in the project area include the pallid bat (*Antrozous pallidus*) and western red bat (*Lasiurus blossevillii*), both California Species of Special Concern, and the hoary bat (*Lasiurus cinereus*), considered uncommon in the state.[57] The

[56] California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.

[57] California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.

hoary bat roosts in woodlands and forests with medium to large-size trees and dense foliage.[58] Habitat for this species is present in the riparian woodland habitat within the project area. The pallid bat and Western red bat roost in caves, crevices, mines, and occasionally in hollow trees and buildings.[59] These species could utilize existing buildings within the project area, particularly the foundation for the partially constructed baseball field and stadium.

Habitat for foliage-roosting species is present in the project area in the riparian woodland and trees, and habitat for cavity-roosting species is present in the foundation for the partially constructed baseball field and stadium, as well as various buildings and infrastructure throughout the project area. There is a single CNDDB occurrence for hoary bat within 5 miles of the project area, in West Sacramento. There are no records of pallid bat or western red bat from the CNDDB within 5 miles of the project area.[60] No bat species were observed during the reconnaissance-level biological resources surveys conducted within the project area.

Plants

Special-Status Plants

Special-status plant species with the potential to occur in the project area include stinkbells (*Fritillaria agrestis*, CRPR 4.2) and Sanford's arrowhead (*Sagittaria sanfordii*, CRPR 1B.2). Stinkbells are associated with annual grasslands, and Sanford's arrowhead is associated with freshwater habitats similar to those found in the emergent wetlands in the project area. There are two CNDDB occurrences for stinkbells and three occurrences for Sanford's arrowhead within 5 miles of the project area, although none are within the project area boundaries. No special-status plant species were observed during the reconnaissance-level biological resources surveys conducted within the project area.

Sensitive Natural Communities

A *sensitive natural community* is a biological community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is in other ways of special concern to federal, state, or local agencies. Most sensitive natural communities are given special consideration because they perform important ecological functions, such as maintaining water quality and providing essential habitat for plants and wildlife. Some plant communities support a unique or diverse assemblage of plant species and therefore are considered sensitive from a botanical standpoint. CEQA may identify the elimination of such communities as a significant impact.

Sensitive natural communities include:

- Areas of special concern to federal, state, or local resource agencies.

58 Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

59 Zeiner, D. C., W. F. Laudenslayer Jr., and K. E. Mayer. 1988. *California's Wildlife.* Volumes 1, 2, and 3. Wildlife and Habitat Data Analysis Branch, California Department of Fish and Wildlife. Available: http://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range. Accessed May 31, 2019.

60 California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.

- Areas regulated under Section 404 of the CWA.
- Areas protected under Section 402 of the CWA.
- Areas protected under state and local regulations and policies.

Habitat types within the project area that would be considered sensitive by regulatory agencies include freshwater emergent wetland and riparian woodland. No sensitive habitats are present within the proposed CNU Medical Center.

Riparian habitats are considered by federal and state regulatory agencies to represent a sensitive and declining resource. Riparian areas and wetlands can serve significant biological functions by providing nesting, breeding, foraging, and spawning habitat for a wide variety of resident and migratory wildlife species. Under California Fish and Game Code Section 1600, CDFW takes jurisdiction over the stream or lake zone, which is defined as the top of bank or outside extent of riparian vegetation, whichever is the greatest.

CDFW's *California Natural Communities List*[61] ranks vegetation alliances in California according to their degree of rarity imperilment (as measured by rarity, trends, and threats). All alliances are listed with a G (global) and S (state) rank. Alliances with state ranks of S1–S3 are considered by CDFW to be of special concern; all associations within them are also considered highly imperiled. CDFW guidance recommends that all alliances with state ranks of S1–S3 be considered and analyzed under CEQA. The following vegetation alliances are considered by CDFW to be of special concern and should therefore be considered a sensitive natural community under CEQA regulations.

Vegetation Alliances

- *Salix gooddingii* (61.211.00) Black willow thickets
- *Salix lasiolepis* (61.201.00) Arroyo willow thickets
- *Populus fremontii* (61.130.00) Fremont cottonwood forest

Wildlife Movement Corridors

Terms such as *habitat corridors*, *linkages*, *crossings*, and *travel routes* are used to describe physical connections that allow wildlife to move between patches of suitable habitat in undisturbed landscapes, as well as environments fragmented by urban development.

Wildlife movement corridors are considered an important ecological resource by CDFW and USFWS and under CEQA. Movement corridors may provide favorable locations for wildlife to travel between different habitat areas such as foraging sites, breeding sites, cover areas, and preferred summer and winter range locations. They may also function as dispersal corridors, allowing animals to move between various locations within their range. Topography and other natural factors, in combination with urbanization, can fragment or separate large areas of open

[61] California Department of Fish and Wildlife. 2018. California Natural Communities List. Available: https://wildlife.ca.gov/Data/VegCAMP/NaturalCommunities/List#sensitive natural communities. Accessed May 31, 2019.

space. Areas of human disturbance or urban development can fragment wildlife habitats and impede wildlife movement between areas of suitable habitat. This fragmentation creates isolated "islands" of vegetation that may not provide sufficient area to accommodate sustainable populations, and can adversely affect genetic and species diversity. Movement corridors mitigate the effects of this fragmentation by allowing animals to move between remaining habitats, which in turn allows depleted populations to be replenished and promotes genetic exchange between separate populations.

The lacustrine/freshwater emergent wetland/riparian habitat provides valuable habitat for migrating birds within a highly urbanized area. However, no wildlife movement corridors for terrestrial species have been identified in the project area, as the surrounding areas are highly fragmented by urban uses and the project area is isolated from areas of suitable habitat.

4.3.2 Regulatory Setting

Federal

Federal Endangered Species Act

The FESA protects candidate, threatened, and endangered plants and animals and their critical habitat. *Candidate species* are those proposed for listing; during the environmental review process, these species are usually treated by resource agencies as if they were actually listed. Procedures for addressing impacts on federally listed species follow two principal pathways, both of which require consultation with USFWS, which administers the FESA for all terrestrial species. The first pathway, a Section 10(a) incidental take permit, applies to situations where a nonfederal government entity must resolve potential adverse impacts on species protected under the FESA. The second pathway, Section 7 consultation, applies to projects directly undertaken by a federal agency or private projects requiring a federal permit or approval.

Migratory Bird Treaty Act

The MBTA enacts the provisions of treaties between the United States, Great Britain, Mexico, Japan, and the former Soviet Union and authorizes the U.S. Secretary of the Interior to protect and regulate the taking of migratory birds. This law establishes seasons and bag limits for hunted species and protects migratory birds, their occupied nests, and their eggs. Most actions that result in a taking or in permanent or temporary possession of a protected species constitute violations of the MBTA. Examples of permitted actions that do not violate the MBTA are the possession of a hunting license to pursue specific game birds, legitimate research activities, display in zoological gardens, bird banding, and other similar activities. USFWS is responsible for overseeing compliance with the MBTA.

Clean Water Act

The federal CWA was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

Section 404

CWA Section 404 regulates the discharge of dredged and fill materials into waters of the United States. *Waters of the United States* refers to oceans, bays, rivers, streams, lakes, ponds, and wetlands. Applicants must obtain a permit from the U.S. Army Corps of Engineers (USACE) for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. Waters of the United States are under the jurisdiction of USACE and the U.S. Environmental Protection Agency.

Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations. USACE cannot issue an individual permit or verify the use of a general nationwide permit until the requirements of FESA and the National Historic Preservation Act have been met. In addition, USACE cannot issue or verify any permit until a water quality certification or a waiver of certification has been issued pursuant to CWA Section 401.

Section 401

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401.

State

Porter-Cologne Water Quality Control Act

The State Water Resources Control Board and the RWQCBs are the principal state agencies with primary responsibility for the coordination and control of water quality. In the Porter-Cologne Act, the California Legislature declared that the "state must be prepared to exercise its full power and jurisdiction to protect the quality of the waters in the state from degradation..." (California Water Code Section 13000).

The Porter-Cologne Act grants the RWQCBs the authority to implement and enforce the water quality laws, regulations, policies, and plans to protect the groundwater and surface waters of the state. Waters of the state determined to be jurisdictional would require, if affected, waste discharge permitting and/or a CWA Section 401 certification (in the case of a required USACE permit under Section 404). The enforcement of the state's water quality requirements is not solely the purview of the RWQCBs and their staff. Other agencies (e.g., CDFW under Section 5650 of the California Fish and Game Code) have the authority to enforce certain water quality provisions in state law.

California Endangered Species Act

Under the CESA, CDFW has the responsibility for maintaining a list of endangered and threatened species (California Fish and Game Code, Section 2070). Sections 2050–2098 of the California Fish and Game Code outline the protection provided to California's rare, endangered,

and threatened species. Section 2080 prohibits the taking of plants and animals listed under the CESA. Section 2081 established an incidental take permit program for state-listed species. CDFW maintains a list of *candidate species*, which are species that CDFW formally notices as being under review for addition to the list of endangered or threatened species.

Pursuant to CESA requirements, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present within the project site and determine whether the project would have a significant impact on such species. In addition, CDFW encourages informal consultation on any proposed project that may affect a candidate species.

Project-related impacts on species listed under the CESA as endangered or threatened would be significant. Under Section 86 the California Fish and Game Code, *take* is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Take of protected species incidental to otherwise lawful management activities may be authorized under California Fish and Game Code Section 206.591. Authorization from CDFW would be in the form of an incidental take permit.

California Fish and Game Code

Fully Protected Species

Certain species are considered *fully protected*, meaning that the California Fish and Game Code explicitly prohibits all take of individuals of these species except for take permitted for scientific research. Section 5050 lists fully protected amphibians and reptiles, Section 5515 lists fully protected fish, Section 3511 lists fully protected birds, and Section 4700 lists fully protected mammals.

It is possible for a species to be protected under the California Fish and Game Code but not fully protected. For instance, mountain lion (*Puma concolor*) is protected under Section 4800 et seq. but is not a fully protected species.

Protection of Birds and Their Nests

Under Section 3503 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code or any regulation made pursuant thereto. Section 3503.5 of the California Fish and Game Code prohibits take, possession, or destruction of any birds in the orders Falconiformes (hawks) or Strigiformes (owls), or of their nests and eggs. Migratory non-game birds are protected under Section 3800, while other specified birds are protected under California Fish and Game Code Section 3505.

Stream and Lake Protection

CDFW has regulatory authority over streams and lakes and the wetland resources associated with these aquatic systems under California Fish and Game Code Section 1600 et seq. through administration of lake or streambed alteration agreements. Such an agreement is not a permit, but rather a mutual accord between CDFW and a project applicant.

Under Section 1600 et seq. of the California Fish and Game Code, CDFW has the authority to regulate work that will "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river lake or stream." CDFW enters into a lake or streambed alteration agreement with the project applicant and can impose conditions in the agreement to minimize and mitigate impacts on fish and wildlife resources. Because CDFW includes under its regulatory authority streamside habitats that may not qualify as wetlands under the federal CWA's definition, CDFW's regulatory authority may be broader than USACE's jurisdiction.

Pursuant to the California Fish and Game Code, a project applicant must submit a notification of lake or streambed alteration to CDFW before construction. The notification requires an application fee for a lake or streambed alteration agreement, with a specific fee schedule to be determined by CDFW. CDFW can enter into programmatic agreements that cover recurring operation and maintenance activities and regional plans. These agreements are sometimes referred to as *master streambed alteration agreements.*

Under California Fish and Game Code Section 1602 (Streambed Alteration Agreements), CDFW takes regulatory authority over the stream zone, which is defined as the top of bank or outside extent of riparian vegetation, whichever is the greatest. Within the stream zone, waters of the State of California are typically delineated to include the streambed to the top of the bank and adjacent areas that would meet any one of the three wetland parameters in the USACE definition: vegetation, hydrology, and/or soils. Federal jurisdiction requires meeting all three parameters; in practice, meeting one parameter—or even the presence (rather than dominance) of wetland plants in an area associated with a streambed—would qualify an area as waters of the state. CDFW's regulatory authority is not limited to navigable waters or tributaries to navigable waters; however, isolated wetlands and wetlands not associated with a streambed are not subject to CDFW regulatory authority.

California Native Plant Protection Act

State listing of plant species began in 1977 with the NPPA, which directed CDFW to carry out the Legislature's intent to "preserve, protect, and enhance endangered plants in this state." The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare and to require permits for collecting, transporting, or selling such plants.

The CESA expanded on the original NPPA and enhanced legal protection for plants. The CESA established categories for threatened and endangered species, and grandfathered all rare animals—but not rare plants—into the act as threatened species. Thus, three listing categories for plants are employed in California: rare, threatened, and endangered.

California Rare Plant Rank System

CDFW works in collaboration with CNPS to maintain a list of plant species native to California that have low numbers or limited distribution, or are otherwise threatened with extinction. These species are categorized by rarity in the California Rare Plant Rank (or CRPR) system. This information is published in the *Inventory of Rare and Endangered Vascular Plants of*

California.[62] Potential impacts on populations of CRPR species may receive consideration under CEQA review. The following identifies the definitions of the CRPR:

- Rank 1A: Plants presumed extirpated in California and either rare or extinct elsewhere.
- Rank 1B: Plants Rare, Threatened, or Endangered in California and elsewhere.
- Rank 2A: Plants presumed extirpated in California, but more common elsewhere.
- Rank 2B: Plants Rare, Threatened, or Endangered in California, but more common elsewhere.
- Rank 3: Plants about which more information is needed—A Review List.
- Rank 4: Plants of limited distribution—A Watch List.

Local

Sacramento 2035 General Plan

The following goals and policies from the 2035 General Plan's Environmental Resources Element related to biological resources are relevant to the proposed project, including the proposed CNU Medical Center. These policies guide the location, design, and quality of development to protect biological resources such as wildlife habitat, open space corridors, and ecosystems.

Goal ER 2.1: Natural and Open Space Protection. Protect and enhance open space, natural areas, and significant wildlife and vegetation in the City as integral parts of a sustainable environment within a larger regional ecosystem.

Policy ER 2.1.1: Resource Preservation. The City shall encourage new development to preserve on-site natural elements that contribute to the community's native plant and wildlife species value and to its aesthetic character.

Policy ER 2.1.2: Conservation of Open Space. The City shall continue to preserve, protect, and provide appropriate access to designated open space areas along the American and Sacramento Rivers, floodways, and undevelopable floodplains, provided access would not disturb sensitive habitats or species.

Policy ER 2.1.3: Natural Lands Management. The City shall promote the preservation and restoration of contiguous areas of natural habitat throughout the city and support their integration with existing and future regional preserves.

Policy ER 2.1.4: Retain Habitat Areas. The City shall retain plant and wildlife habitat areas where there are known sensitive resources (e.g., sensitive habitats, special-status, threatened, endangered, candidate species, and species of concern). Particular attention shall be focused on retaining habitat areas that are contiguous with other existing natural areas and/or wildlife movement corridors.

Policy ER 2.1.5: Riparian Habitat Integrity. The City shall preserve the ecological integrity of creek corridors, canals, and drainage ditches that support riparian resources by preserving native plants and, to the extent feasible, removing invasive nonnative plants. If not feasible, adverse impacts on riparian habitat shall be mitigated by the

[62] California Native Plant Society, 2021. Inventory of Rare and Endangered Plants (online edition, v8-03). Sacramento, CA. Accessed April 13, 2021.

preservation and/or restoration of this habitat in compliance with State and Federal regulations or at a minimum 1:1 ratio, in perpetuity.

Policy ER 2.1.6: Wetland Protection. The City shall preserve and protect wetland resources including creeks, rivers, ponds, marshes, vernal pools, and other seasonal wetlands, to the extent feasible. If not feasible, the mitigation of all adverse impacts on wetland resources shall be required in compliance with State and Federal regulations protecting wetland resources, and if applicable, threatened or endangered species. Additionally, the City shall require either on- or off-site permanent preservation of an equivalent amount of wetland habitat to ensure no-net-loss of value and/or function.

Policy ER 2.1.7: Annual Grasslands. The City shall preserve and protect grasslands and vernal pools that provide habitat for rare and endangered species. If not feasible, the mitigation of all adverse impacts on annual grasslands shall comply with State and Federal regulations protecting foraging habitat for those species known to utilize this habitat.

Policy ER 2.1.8: Oak Woodlands. The City shall preserve and protect oak woodlands, heritage oaks, and/or significant stands of oak trees in the city that provide habitat for common native, and special-status wildlife species, and shall address all adverse impacts on oak woodlands in accordance with the City's Tree Preservation Ordinance.

Policy ER 2.1.9: Wildlife Corridors. The City shall preserve, protect, and avoid impacts to natural, undisturbed habitats that provides movement corridors for sensitive wildlife species. If corridors are adversely affected, damaged habitat shall, be replaced with habitat of equivalent value or enhanced to enable the continued movement of species.

Policy ER 2.1.10: Habitat Assessments. The City shall consider the potential impact on sensitive plants and wildlife for each project requiring discretionary approval. If site conditions are such that potential habitat for sensitive plant and/or wildlife species may be present, the City shall require habitat assessments, prepared by a qualified biologist, for sensitive plant and wildlife species. If the habitat assessment determines that suitable habitat for sensitive plant and/or wildlife species is present, then either (1) protocol-level surveys shall be conducted (where survey protocol has been established by a resource agency), or, in the absence of established survey protocol, a focused survey shall be conducted consistent with industry-recognized best practices; or (2) suitable habitat and presence of the species shall be assumed to occur within all potential habitat locations identified on the project site. Survey Reports shall be prepared and submitted to the City and the California Department of Fish and Wildlife (CDFW) or the United States Fish and Wildlife Service (USFWS) (depending on the species) for further consultation and development of avoidance and/or mitigation measures consistent with state and federal law.

Policy ER 2.1.11: Natomas Basin Habitat Conservation Plan. The City shall continue to participate in and support the policies of the Natomas Basin Habitat Conservation Plan for the protection of biological resources in the Natomas Basin.

Goal ER 3.1: Urban Forest. Manage the city's urban forest as an environmental, economic, and aesthetic resource to improve Sacramento residents' quality of life.

Policy ER 3.1.3: Trees of Significance. The City shall require the retention of City trees and Private Protected Trees by promoting stewardship of such trees and ensuring that the design of development projects provides for the retention of these trees wherever possible. Where tree removal cannot be avoided, the City shall require compliance with the Tree Preservation Ordinance.

Natomas Basin Habitat Conservation Plan

Development within the Natomas Basin is subject to the Natomas Basin Habitat Conservation Plan, or NBHCP. The NBHCP establishes a multi-species conservation program to minimize and mitigate the expected loss of habitat values and incidental take of covered species that could result from urban development, operation and maintenance of irrigation and drainage systems, and certain activities associated with the Natomas Basin Conservancy's management of its system of reserves established under the NBHCP. The NBHCP applies to the 53,537-acre area interior to the toe of levees surrounding the Natomas Basin, except for areas that were considered existing development when the NBHCP was established. Development within the covered areas of the NBHCP is subject to habitat conservation plan (HCP) fees and compliance with the requirements of the NBHCP.

The project area is included in the list of existing development that is exempt from compliance with the NBHCP.[63] Therefore, development in the project area is exempt from HCP fees and compliance with the NBHCP. However, to ensure that the proposed project would be in accordance with the NBHCP's purpose and goals, the biological resources mitigation measures proposed in Section 4.3.3, *Analysis, Impacts, and Mitigation,* are consistent with the take avoidance, minimization, and mitigation measures outlined in Chapter V of the NBHCP.

In addition, as discussed below, the location of specific project mitigation measures requiring the purchase of credits at a mitigation bank and/or acquisition of mitigation land would be subject to approval by USACE, USFWS, CDFW, and/or the City's NBHCP Designee (as defined in the NBHCP). This requirement has been established because of the limited availability of mitigation lands in the Natomas Basin; it would ensure that any mitigation proposed in this EIR to mitigate impacts on biological resources would not reduce the availability of needed mitigation lands for development subject to the HCP.

Tree Preservation Ordinance

The City recognizes that the planting and preservation of trees enhances natural scenic beauty; increases life-giving oxygen; promotes ecological balance; provides natural ventilation, air filtration, and temperature, erosion, and acoustical controls; increases property values; improves the lifestyle of residents; and enhances the identity of the city. Sacramento City Code Chapter 12.56[64] includes provisions to protect City street trees as well as private protected trees. All removal, trimming, pruning, cutting, or other maintenance activities on any City street tree or private protected trees requires a permit from the director of the department of transportation pursuant to Sacramento City Code Section 12.56.050.

A *City tree* is defined as any tree the trunk of which, when measured 4.5 feet above ground, is partially or completely located in a City park, on real property the City owns in fee, or in a public

63 City of Sacramento, Sutter County, and Natomas Basin Conservancy, 2003. *Final Natomas Basin Habitat Conservation Plan*.

64 City of Sacramento. 2019. Sacramento City Code Chapter 12.56, Tree Planting, Maintenance, and Conservation. Available: www.qcode.us/codes/sacramento. Accessed May 31, 2019.

right-of-way, including any street, road, sidewalk, park strip, mow strip, or alley. A *private protected tree* is defined as any of the following:

- A tree that is designated by City Council resolution to have special historical value, special environmental value, or significant community benefit, and is located on private property.
- Any native Valley oak (*Quercus lobata*), blue oak (*Q. douglasii*), interior live oak (*Q. wislizenii*), coast live oak (*Q. agrifolia*), California buckeye (*Aesculus californica*), or California sycamore (*Platanus racemosa*) that has a diameter at standard height (DSH) of 12 inches or more, and is located on private property.
- A tree that has a DSH of 24 inches or more located on private property that is an undeveloped lot or does not include any single-unit or duplex dwellings.
- A tree that has a DSH of 32 inches or more located on private property that includes any single-unit or duplex dwellings.

The director of the department of transportation may require, where appropriate, the replacement of City trees or private protected trees proposed for removal.

4.3.3 Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, impacts on biological resources may be considered significant if implementation of the proposed project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or CDFW or USFWS;
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

Methodology and Assumptions

This section assesses the potential for development under the proposed project, including the proposed CNU Medical Center, to adversely change biological resources in or around the project

area. The impact analysis focuses on foreseeable changes to the baseline condition and compares those changes to the significance criteria. Potential impacts are analyzed using the information presented above regarding habitats present in and around the project area, and potential occurrence of special-status and protected species.

In the impact analysis, three principal factors have been considered:

- Magnitude of the impact (e.g., substantial/not substantial).
- Uniqueness of the affected resource (i.e., rarity of the resource).
- Susceptibility of the affected resource to perturbation (i.e., sensitivity of the resource).

The evaluation of significance considers the interrelationship of these three factors. For example, a relatively small-magnitude impact on a federally listed or state-listed species would be significant if the species is exceptionally rare or believed to be highly susceptible to disturbance. Conversely, a plant community such as annual grassland is not necessarily rare or sensitive to disturbance if a small amount of acreage would be affected. Therefore, an impact would need to be of a much larger magnitude to result in a significant impact.

No impacts on special-status species are expected from operations under the proposed project, including the CNU Medical Center. The following discussion therefore evaluates the potential for project construction to affect special-status species.

Impacts and Mitigation Measures

Impact 4.3-1: Construction under the proposed Innovation Park PUD project, including the CNU Medical Center, could result in the loss of potential foraging habitat for Swainson's hawk.

Innovation Park PUD

Swainson's hawks require large, open grasslands with abundant prey near suitable nest trees. High-quality foraging areas include native grasslands or lightly grazed pastures, alfalfa, and other hay crops, and certain grain and row croplands. Annual grassland is considered moderate- to low-quality foraging habitat for Swainson's hawk, depending on prey abundance, connectivity to adjacent habitats, and vegetation composition, density, and height.[65] The annual grassland in the project area, as identified in Table 4.3-2 (Innovation Park PUD contains 41.83 acres of annual grassland, including the proposed CNU Medical Center site which contains 0.17 acres of grassland), consists mainly of weedy species and is disconnected from other Swainson's hawk foraging areas. Nevertheless, the annual grasslands in the project area could be used by Swainson's hawk as foraging habitat, particularly if Swainson's hawks nest in the vicinity of the project area. CDFW considers impacts on foraging habitat greater than 5 acres significant.[66] Development allowed under the Innovation Park PUD (including the CNU Medical Center)

[65] California Department of Fish and Wildlife. 2016. *Five Year Status Review for Swainson's Hawk (*Buteo swainsoni*).* Sacramento, CA.

[66] California Department of Fish and Wildlife. 1994. *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California*. Sacramento, CA. November 8, 1994.

would result in the loss of 41.83 acres of Swainson's hawk foraging habitat in the form of annual grasslands. This impact would be **significant**.

CNU Medical Center

Considered in isolation, the loss of 0.17 acre of annual grasslands through development of the CNU Medical Center would not be considered significant because the loss of foraging habitat would be less than 5 acres. However, because the loss of 0.17 acres of grassland on the CNU Medical Center site is a portion of the larger loss of 41.83 acres as part of the whole of the Innovation Park PUD, this impact would be **significant**.

Mitigation Measure

Mitigation Measure 4.3-1: Compensate for Permanent Loss of Swainson's Hawk Foraging Habitat (PUD, CNU)

Construction of development under the Innovation Park PUD would affect 41.83 acres. To compensate for the permanent loss of 41.83 acres of Swainson's hawk foraging habitat, any future development project allowed under the Innovation Park PUD within suitable foraging habitat for Swainson's hawk shall preserve CDFW-approved foraging habitat for Swainson's hawk, or shall purchase Swainson's hawk foraging habitat mitigation credits at a CDFW-approved mitigation bank, at a minimum 1:1 ratio, which is double the mitigation ratio required by the NBHCP. Before purchase of credits at a mitigation bank and/or acquisition of mitigation land, the ratio and location of the mitigation shall be subject to approval by CDFW, USFWS, and/or the City's NBHCP Designee.

This mitigation shall be implemented by the project applicant before the City's issuance of grading permits or of wrecking permits, whichever comes first, for any work in suitable Swainson's hawk foraging habitat. In addition, because of the limited availability of mitigation lands in the Natomas Basin, mitigation of impacts on Swainson's hawk foraging habitat shall not reduce the availability of needed mitigation lands for development subject to the NBHCP.

Significance After Mitigation: Implementation of Mitigation Measure 4.3-1 would reduce impacts on Swainson's hawk foraging habitat to a **less-than-significant** level because applicants of future projects under the Innovation Park PUD would preserve suitable habitat off-site or purchase mitigation credits. Because the project area is not subject to the NBHCP, mitigation of impacts on Swainson's hawk foraging habitat can occur outside of the Natomas Basin.

Impact 4.3-2: Construction under the proposed Innovation Park PUD project, including the CNU Medical Center, could result in the loss of potential nesting habitat for special-status bird species and other sensitive and/or protected bird species.

Portions of the project area may support nesting birds, including but not limited to special-status species such as Cooper's hawk, Swainson's hawk, burrowing owl, white-tailed kite, song sparrow, purple martin, tricolored blackbird, great egret, great blue heron, snowy egret, black-crowned night heron, and white-faced ibis, as well as more common migratory birds and raptors.

The generally accepted nesting season to encompass all birds extends from February 1 through September 15.

Innovation Park PUD

Innovation Park PUD provides suitable nesting habitat within the landscape trees and bushes in the parking lots associated with the urban and disturbed/ruderal areas, the trees and vegetation within the valley-foothill riparian woodland/freshwater emergent wetland/lacustrine pond area, and the annual grassland. The riparian woodland, emergent wetlands, and lacustrine habitat associated with the partially constructed baseball field and stadium are known to support suitable nesting and foraging habitat for a variety of bird species. During surveys conducted in April 2019, approximately 100 active black-crowned night heron nests and five active cattle egret nests were observed in the riparian woodland. In addition, annual grassland habitat in the northern part of the project area currently provides suitable nesting habitat for burrowing owl.

Construction activities including removal of landscape trees and shrubs, clearing and grubbing, and initial grading could impact nesting birds if anticipated to commence during the nesting season. Additionally, human disturbance and noise and vibration from construction activities, including pile driving have the potential to cause nest abandonment and death of young or loss of reproductive success at active nests located near project activities. Nesting birds and raptors are protected under California Fish and Game Code Section 2080 (i.e., killing of a listed species) and Sections 3503, 3503.5, and 3800 (i.e., take, possession, or destruction of birds, their nests or eggs), and under Section 3513 of the MBTA (United States Code Title 16, Section 703 Supp. I 1989).

Removal of annual grassland could result in impacts on burrowing owls if present within the ground squirrel burrows. During the nesting season, it would be expected that significant increases in noise and activity levels could disturb breeding behavior.

Construction impacts associated with filling of the pond including removal of riparian vegetation could destroy nests of individual birds and rookeries if anticipated to commence during the nesting season. Disturbance of active nest sites that results in nest abandonment, loss of young, or reduced health and vigor of eggs and/or nestlings (resulting in reduced survival rates), or the direct removal of vegetation supporting nesting birds that results in the killing of nestlings or fledgling bird species, or the loss of rookeries, would be a **significant** impact.

CNU Medical Center

Construction activities including removal of landscape trees and shrubs, clearing and grubbing, initial grading, and demolition of the existing buildings (potentially by implosion) could impact nesting birds within the CNU Medical Center if anticipated to commence during the nesting season. Additionally, human disturbance and noise and vibration from construction activities, including pile driving and potential implosion and demolition of the existing buildings, have the potential to cause nest abandonment and death of young or loss of reproductive success at active nests located near project activities. Nesting birds and raptors are protected under California Fish and Game Code Section 2080 (i.e., killing of a listed species) and Sections 3503, 3503.5, and 3800 (i.e., take, possession, or destruction of birds, their nests or eggs), and under Section 3513 of the MBTA (United States Code Title 16, Section 703 Supp. I 1989). Disturbance of active nest sites that

results in nest abandonment, loss of young, or reduced health and vigor of eggs and/or nestlings (resulting in reduced survival rates), or the direct removal of landscape trees and shrubs supporting nesting birds that results in the killing of nestlings would be a **significant** impact.

Mitigation Measures

Mitigation Measure 4.3-2(a): Conduct Preconstruction Survey for Active Raptor and Migratory Bird Nests and Implement Avoidance Measures. (PUD, CNU)

Construction activities associated with clearing and grubbing, tree removal, demolition of buildings or other structures (including potential demolition by implosion), and removal of riparian woodland/filling of the pond shall occur outside of the nesting season that encompasses all birds (September 16 through January 31), unless the following measures are complied with. If vegetation removal begins during the nesting season (February 1 to September 15), the project applicant shall retain a qualified biologist to conduct a preconstruction survey for active nests in suitable nesting habitat within 500 feet of the construction area for nesting raptors and migratory birds. The preconstruction survey shall be conducted within five days before the start of ground-disturbing activities. If the preconstruction survey shows that there is no evidence of active nests, a letter report shall be submitted to the City for its records within 14 days of the survey and no additional measures are required. If construction activities do not begin within five days of the preconstruction survey, or if construction halts for more than five days, an additional preconstruction survey is required within five days of the initiation or re-initiation of construction activities.

If active nests are found during the survey, the project applicant shall implement mitigation measures to ensure that the species will not be adversely affected, which will include establishing a no-work buffer zone, as approved by the City in consultation with the CDFW and/or USFWS, around the active nest.

Measures will include, but not be limited to:

1. The project applicant shall maintain a 500-foot buffer around each active raptor nest and a 100-foot buffer around the black-crowned night heron and cattle egret rookery (during nesting season). No construction activities shall be permitted within this buffer. For other nesting migratory and passerine birds, a no-work buffer zone shall be established around the active nest, as determined by the City in consultation with CDFW and/or USFWS. The no-work buffer may vary depending on species and site-specific conditions, as determined by the City in consultation with CDFW and USFWS.

2. Depending on conditions specific to each nest, and the relative location and rate of construction activities, it may be feasible for construction to occur as planned within the buffer without affecting the breeding effort. In this case (to be determined on a case-by-case basis), a qualified biologist shall monitor the nest(s) during construction within the buffer. If, in the professional opinion of the monitor, the project would affect the nest, the biologist shall immediately inform the construction manager and the project applicant shall notify the City's Planning Director. The construction manager shall stop construction activities within the buffer until the nest is no longer active. Completion of the nesting cycle shall be determined by the qualified biologist. If construction begins outside of the migratory bird breeding season (February 1 through August 31), the applicant is permitted to continue construction activities in

the existing active construction footprint. However, an additional nesting bird survey shall be conducted if construction is expected to extend outside of the active construction footprint.

3. Mitigation Measure 4.7-1(a), item viii (see Section 4.7, *Noise and Vibration*), which requires employment of noise-reducing pile installation techniques, shall be implemented for construction activities that include pile driving.

Mitigation Measure 4.3-2(b): Conduct Preconstruction Surveys for Burrowing Owls and Implement Avoidance Measures. (PUD)

1. Preconstruction surveys for burrowing owls shall be conducted by a qualified biologist (as approved by CDFW) prior to construction activities within 500 feet of the annual grassland. For the purposes of burrowing owl, construction activities include mobilization, vegetation clearing operations, grading, including in areas where disturbance has occurred from construction prior to development. Surveys shall be conducted no more than 30 days and no less than 14 days before the start of construction activities. If construction activities are delayed for more than 30 days after the initial preconstruction surveys, a new preconstruction survey shall be required. All surveys shall be conducted in accordance with the *Staff Report on Burrowing Owl Mitigation*.[67] (**Appendix D**). This mitigation shall be implemented by the project applicant.

2. If burrowing owls are discovered within 500 feet of the disturbance footprint while construction is actively occurring during the nesting season, the CDFW-approved project biologist shall be notified immediately. The biologist shall establish a 500-foot no-work buffer. The biologist shall conduct daily check-in site visits for the first week to monitor the nest. After the first week, the biologist shall conduct two site visits per week to monitor the nest until the biologist verifies through non-invasive methods that either: (1) the owls have not begun egg-laying and incubation; or (2) juveniles from the occupied burrows are foraging independently and are capable of independent survival.

Mitigation Measure 4.3-2(c): Conduct Preconstruction Surveys for Swainson's Hawk and Implement Avoidance and Minimization Measures. (PUD, CNU)

1. If construction activities are anticipated to begin during the Swainson's hawk nesting season (March 1 to September 15) in each year construction activities begin, a qualified biologist shall conduct a minimum of three preconstruction surveys during each of the two recommended survey periods in accordance with the 2000 Swainson's Hawk Technical Advisory Committee's (TAC's) *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*[68] (**Appendix D**). Construction activities include clearing and grubbing, tree removal, initial grading, removal of riparian woodland/filling of the pond, and noise and vibration associated with construction equipment. The table below provides the Swainson's Hawk TAC's survey periods:

[67] California Department of Fish and Wildlife. 2012. *Staff Report on Burrowing Owl Mitigation.* Sacramento, CA.

[68] Swainson's Hawk Technical Advisory Committee. 2000. *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*. May 31, 2000.

Survey Period	Survey Time	Notes
I. January–March	All day	Optional
II. March 20–April 5	Sunrise–10 a.m.; 4 p.m.–sunset	
III. April 5–April 20	Sunrise–12 noon; 4:30 p.m.–sunset	
IV. April 21–June 10	Monitoring known nest sites only	Initiating surveys not recommended
V. June 10–July 30	Sunrise–12 noon; 4 p.m.–sunset	

For example, if construction is anticipated to begin in May, three surveys would be conducted in Survey Period II and three surveys would be conducted in Survey Period III. All potential nest trees within 0.50 mile of the project footprint shall be visually examined for potential Swainson's hawk nests, as accessible. If no active Swainson's hawk nests are identified in or within 0.50 mile of the project area, a letter report documenting the survey methodology and findings shall be submitted to the City for their files within 14 days of the final survey for each year of construction. This mitigation shall be implemented by the project applicant before any project-related work in suitable nesting habitat.

2. If active Swainson's hawk nests are found within 0.25 mile of construction activities, a survey report shall be submitted to CDFW, and an avoidance and minimization plan shall be developed for approval by CDFW before the start of construction. The avoidance plan shall identify measures to minimize impacts on the active Swainson's hawk nest, depending on the exact location of the nest. These measures shall include but not be limited to:

    a. All construction personnel shall receive a worker environmental awareness training program from a CDFW- and USFWS-approved biologist before the start of any construction activities.

    b. A buffer zone and work schedule shall be established to avoid affecting the nest during critical periods. If possible, no work will occur within 0.25 mile of the nest while it is in active use. If work will occur within 0.25 mile of the nest, construction will be monitored by a qualified biologist on a daily basis to ensure that no work occurs within a minimum of 500 feet of the nest during incubation or within 10 days after hatching.

    c. A biological monitor shall conduct regular monitoring of the nest during construction activities.

    d. The biologist shall be allowed to halt construction activities if construction activities are disturbing the nest. The biologist will be able to halt construction until she/he has determined that the nest activity is resuming normal activity. Once the biologist determines that normal nesting behavior has resumed, construction activities may recommence.

    e. No plastic, monofilament, jute, or similar erosion control matting shall be placed within the project area when working within 200 feet of annual grassland or suitable nest sites. Possible substitutions include coconut coir matting, tackified hydroseeding compounds, or other material approved by CDFW and USFWS.

Significance After Mitigation: Implementation of Mitigation Measures 4.3-2(a) through 4.3-2(c) would reduce impacts on nesting burrowing owls, Swainson's hawks, or birds protected under the Migratory Bird Protection Treaty during construction under the proposed project to a **less-than-significant** level.

Impact 4.3-3: Construction under the proposed project could result in impacts on special-status bat species.

Special-status bat species potentially present in the project area include pallid bat (*Antrozous pallida*), western red bat (*Lasiurus blossevillii*), and hoary bat (*L. cinereus*). Night and maternity roosting habitat includes the riparian woodland, the landscape trees, the foundation for the partially constructed baseball field and stadium, as well as the Sleep Train Arena and associated infrastructure throughout the project area.

Innovation Park PUD

Construction activities associated with the removal of mature landscape trees could impact cavity roosting bats. The removal of trees from within the riparian woodland could result in the loss of a maternity colony of foliage-roosting bats. Removal or destruction of the foundation of the partially constructed baseball field and stadium could result in the removal of a maternity roost site for special-status or common bat species, if present. These impacts would be **significant**.

CNU Medical Center

Construction activities associated with the removal of mature landscape trees could destroy cavity nesting bats and the demolition and potential implosion of the Sleep Train Arena building and associated infrastructure could result in the removal of a maternity roost site for special-status or common bat species, if present. These impacts would be **significant**.

Mitigation Measure

Mitigation Measure 4.3-3: Conduct Bat Habitat Assessment and Field Surveys and Avoid Disturbance of Maternity Roosts (PUD, CNU).

Construction activities associated with removal of landscape and riparian trees, demolition and potential implosion of the Sleep Train Arena building and associated infrastructure, and demolition of the foundation of the partially constructed baseball field and stadium shall occur between September 1 and April 30, which is outside of the breeding season for bat species, to the extent feasible.

If removal of landscape and riparian trees begin during the breeding period for bats (May 1 through August 31), a qualified biologist shall conduct a preconstruction survey within five days prior to the scheduled tree removal. The biological shall inspect all trees containing crevices and the bark or cavities for evidence of sign (i.e. guano). If no sign is observed, a letter report shall be submitted to the City for its records within 14 days of the survey and no additional measures associated with tree removal are required. If tree removal does not begin within five days of the preconstruction survey, or if the removal of previously inspected trees halts for more than five days, an additional preconstruction survey is required within five days of the initiation or re-initiation of tree removal. If a

maternity colony is observed within a tree, that tree shall not be removed until the breeding season has been completed. Alternatively, a qualified bat biologist may exclude individual day-roosting bats in consultation with CDFW, thereby allowing tree removal to continue after successful exclusion activities.

If construction activities associated with the demolition and potential implosion of the Sleep Train Arena building and associated infrastructure within the CNU Medical Center and the demolition of the remnant baseball field foundation in the Innovation Park PUD are anticipated to occur during the breeding season (May 1 through August 31), a qualified biologist shall conduct a nighttime emergence survey no later than one-half hour before sunset and continue until at least 3 hours after sunset to allow for detection of both day- and night-roosting bats. The survey shall be conducted within five days of the scheduled implosion of the Sleep Train Arena building and associated infrastructure and the demolition of the remnant baseball field foundation. If any bats are observed emerging from any of the buildings or foundation, the building(s) or the foundation shall not be demolished until the breeding season has been completed.

Significance After Mitigation: Implementation of Mitigation Measure 4.3-3 would minimize potential direct and indirect impacts on maternity roosting bats in the project area because preconstruction surveys would be required to identify any maternity roosting sites; and, should any such sites be found, removal of trees or demolition of the building(s) or foundation would be delayed until the end of the breeding season. This would reduce impacts on maternity colonies during construction activities to a **less-than-significant** level.

Impact 4.3-4: Vegetation clearing activities and initial grading under the proposed project could result in impacts on special-status plant species.

Innovation Park PUD and CNU Medical Center

Special-status plant species with the potential to occur in the project area include stinkbells (*Fritillaria agrestis*, CRPR 4.2) and Sanford's arrowhead (*Sagittaria sanfordii*, CRPR 1B.2). Stinkbells are associated with annual grassland within the project area, and Sanford's arrowhead is associated with freshwater habitats similar to those found in the emergent wetlands within the Innovation Park PUD. Construction activities proposed within suitable habitat for special-status plant species could result in the removal of special-status plant species. This impact would be **significant**.

Mitigation Measure

Mitigation Measure 4.3-4: Conduct Preconstruction Survey for Special-Status Plant Species and Prepare and Implement a Transplantation and Monitoring Plan if Necessary (PUD, CNU).

A qualified plant biologist approved by CDFW shall conduct a preconstruction survey in the annual grassland for stinkbells (blooms March-June) within the project area including the CNU Medical Center and within the riparian woodland for Stanford's arrowhead (blooms May-November) within Innovation Park PUD (excluding the CNU Medical Center) during their blooming periods prior to vegetation clearing activities and initial

grading. The survey will be conducted following the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*.[69] If special-status plant species are found, the project applicant shall prepare a transplantation and monitoring plan in consultation with CDFW. The transplantation and monitoring plan will be subject to review and approval by CDFW before the start of any construction activities in the special-status plant species area. This plan will describe the intent and anticipated success of transplanting, and specify success criteria for transplanted plants and related long-term protection and management of transplanted plants. This mitigation shall be implemented by the project applicant.

Significance After Mitigation: Implementation of Mitigation Measure 4.3-4 would minimize potential impacts on special-status plant species in the project area by requiring preconstruction surveys that would identify any special-status plant populations, and should any such populations be found, requiring the implementation of a transplantation and monitoring plan. This would reduce impacts on special-status plant species during construction activities to a **less-than-significant** level.

Impact 4.3-5: Impacts to the lacustrine/freshwater emergent wetland within the Innovation Park PUD would have the potential to result in a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Innovation Park PUD

Construction Impacts

Formal delineations of potentially jurisdictional wetlands and other waters of the United States and/or state in the project area have not been conducted. However, potentially jurisdictional aquatic resources occur in the project area. For the purposes of this EIR, the valley-foothill riparian woodland/freshwater emergent wetland/lacustrine habitat complex in the project area (excluding the CNU Medical Center) are assumed to be jurisdictional under the Clean Water Act and state regulations. Because of the urban nature of the project area, outside of the riparian/ wetland/lacustrine complex, potentially jurisdictional waters do not appear to be present and are not known to be significant restraints on development in the project area. Therefore, impacts on wetlands and other waters of the United States and state-protected waters/wetlands are unlikely throughout the majority of the project area.

CWA Section 404 requires that a permit be obtained from USACE before the discharge of dredged or fill materials into any "waters of the United States," which include wetlands. Section 404 permits generally require mitigation to offset losses of these habitat types, in accordance with Executive Order 11990, which is intended to result in no net loss of wetland values or acres. *Waters of the state* are defined as any surface or subsurface water and are protected by the Porter-Cologne Act.

[69] California Department of Fish and Wildlife. 2018. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities.* Sacramento, CA.

The proposed project would result in the partial fill of the 6.38 acres of potentially jurisdictional wetlands and other waters of the United States and state-protected waters/wetlands. Directly affected potentially jurisdictional features would include the southern and western portions of the valley-foothill riparian woodland/freshwater emergent wetland/lacustrine habitat complex to accommodate the alignment of B Street and associated park to be constructed around the northeastern portion of the valley-foothill riparian woodland/freshwater emergent wetland/ lacustrine habitat complex anticipated to be preserved. These features would be directly affected through grading and excavations for roadways, pavement, and other improvements, or through dewatering of the pond. The loss of wetlands and other waters of the United States and state-protected waters/wetlands would be a **significant** impact.

Operational Impacts

The increase in impervious surfaces that would result from implementation of the proposed project would generate stormwater that would be discharged to local waterways and eventually to the Sacramento River. Development in the project area may increase pollutant concentrations and sediment runoff. Extended periods of localized, high suspended sediment concentrations and increased pollution concentrations could result in decreased water quality, including high suspended sediment concentrations and turbidity. The aforementioned conditions could cause indirect or direct impacts on waters of the United States and/or state-protected waters/wetlands. However, runoff in the project area is directed to City stormwater storage and treatment facilities, where it is treated before being discharged to the Sacramento River.

The CWA mandates permits for construction activities and municipal stormwater discharges. The City of Sacramento has coverage under a Municipal Separate Storm Sewer System General Permit. This permit requires that projects implement controls to reduce the discharge of pollutants in stormwater discharges to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and other measures as appropriate. As part of permit compliance, the City has prepared a stormwater quality improvement plan, which outlines requirements for municipal operations, industrial and commercial businesses, illegal discharges, construction sites, planning and land development, public education and outreach, and watershed stewardship. These requirements include multiple measures to control pollutants in stormwater discharge. All construction activities in the project area would be required to follow the guidance contained in the stormwater quality improvement plan.

Water quality objectives for the Sacramento River are specified in the *Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin* (Basin Plan) prepared by the Central Valley RWQCB in compliance with the federal CWA and the California Water Code (Section 13240). The Basin Plan contains numerical and narrative water quality standards and objectives for rivers and their tributaries within its jurisdiction that were developed to protect beneficial uses, including fish habitat.

Regulatory compliance would prevent the substantial degradation of water quality and associated habitat conditions in the Sacramento River, and operational impacts on waters of the United States and state-protected waters/wetlands from development allowed under the proposed project would be **less than significant**.

CNU Medical Center

No aquatic features occur within the CNU Medical Center. Therefore, the development of the CNU Medical Center would have **no impact** on waters of the United States and state-protected waters/wetlands.

Mitigation Measures

Mitigation Measure 4.3-5(a): Acquire Applicable Wetland Permits before Issuance of Grading or Wrecking Permits. (PUD)

Before the City issues a grading permit or demolition permit, whichever comes first, for any work in riparian and emergent wetlands or lacustrine habitats in the project area, the project applicant shall acquire all applicable permits. This includes acquiring a permit for dewatering activities in the event the pond needs to be dewatered before any impacts. These permits may include, but would not be limited to, a CWA Section 404 permit from USACE, a CWA Section 401 water quality certification from the Central Valley RWQCB, and/or a Section 1600 lake and streambed alteration agreement from CDFW.

Mitigation Measure 4.3-5(b): Implement Wetland Mitigation to Demonstrate No Net Loss of Wetlands and Other Waters. (PUD)

The project applicant shall demonstrate that there is no net loss of wetlands and other waters of the United States and state-protected waters/wetlands from project construction. To ensure this, wetland mitigation shall be developed as a part of the permitting process as described in Mitigation Measure 4.3-5(a) above. Mitigation shall be provided before construction-related impacts on the existing wetlands occur. The exact mitigation ratio will be determined in consultation with USACE and/or CDFW, based on the type and value of the wetlands affected by the project, but the project shall compensate for affected wetlands at a ratio no less than 1:1.

Compensation shall take the form of wetland preservation or creation in accordance with USACE and/or CDFW mitigation requirements, as specified in project permits. Preservation and creation will occur off-site through the purchase of credits at a USACE- and/or CDFW-approved mitigation bank and/or the acquisition of mitigation land. Because the project area is not subject to the NBHCP, mitigation of impacts on wetlands and other waters of the United States and state-protected waters/wetlands can occur outside of the Natomas Basin. Alternatively, although exempt from the NBHCP, the project applicant may also pay NBHCP fees

Significance After Mitigation: With the implementation of Mitigation Measure 4.3-5, no net loss of wetlands and other waters of the United States and state-protected waters/ wetlands would result from the implementation of the proposed Innovation Park PUD. Thus, impacts on wetlands and other waters of the United States and state-protected waters/wetlands from implementation of the proposed project would be reduced to a **less-than-significant** level.

Impact 4.3-6: Construction under the proposed Innovation Park PUD could result in a substantial adverse effect on riparian habitat or other sensitive natural communities identified in local or regional plans, policies, regulations or by CDFW or USFWS.

CDFW's *California Natural Communities List*[70] ranks vegetation alliances in California according to their degree of rarity imperilment (as measured by rarity, trends, and threats). All alliances are listed with a G (global) and S (state) rank. Alliances with state ranks of S1–S3 are considered by CDFW to be of special concern; all associations within them are also considered highly imperiled. The following vegetation alliances found within the project area are considered of special concern by CDFW and should therefore be considered a sensitive natural community under CEQA regulations.

- *Salix gooddingii* (61.211.00) Black willow thickets
- *Salix lasiolepis* (61.201.00) Arroyo willow thickets
- *Populus fremontii* (61.130.00) Fremont cottonwood forest

The following discussion evaluates the potential for project construction to affect riparian habitat or other sensitive natural communities.

Innovation Park PUD

Riparian vegetation would be removed as a result of construction under the proposed Innovation Park PUD. The removal of native riparian vegetation, including native willow trees and shrubs and Fremont cottonwood trees, would result in a significant impact on habitat types identified by CDFW as sensitive natural communities. Because riparian habitats are considered sensitive biological communities by CDFW and have substantial value to wildlife, the impact related to the loss of mature native riparian habitat would be **significant**.

CNU Medical Center

No riparian habitat or other sensitive natural communities occur within the CNU Medical Center. Therefore, the development of the CNU Medical Center would have no impact on riparian habitat or other sensitive natural communities.

Mitigation Measure

Mitigation Measure 4.3-6: Compensate for Removal of Riparian Woodland Habitat. (PUD)

The project applicant shall compensate for the removal of riparian woodland habitat at a minimum ratio of 3:1. Compensation shall take the form of preservation or creation in accordance with CDFW mitigation requirements, as required under project permits. Preservation and creation shall occur off-site through the purchase of credits at a USACE- and/or CDFW-approved mitigation bank, through the acquisition of mitigation land, or through the purchase of NBHCP fees.

[70] California Department of Fish and Wildlife. 2018. California Natural Communities List. Available: https://wildlife.ca.gov/Data/VegCAMP/NaturalCommunities/List#sensitive natural communities. Accessed May 31, 2019.

Significance After Mitigation: With implementation of Mitigation Measure 4.3-6, there would be no net loss of riparian woodland vegetation through the purchase of mitigation credits at a CDFW-approved mitigation bank or through the purchase of NBHCP fees. Thus, impacts on riparian habitat from construction under the proposed project would be reduced to a **less-than-significant** level.

Impact 4.3-7: Construction under the proposed Innovation Park PUD could interfere substantially with the movement of resident or migratory fish or wildlife species, migratory corridors, or impede the use of native wildlife nursery sites.

The following discussion evaluates the potential for project construction to affect species movement and migratory corridors.

Innovation Park PUD

Although it is situated within the Pacific Flyway, the majority of habitat within the project area is urban and surrounded by urban development. The relatively small amount of habitat associated with annual grassland in the northern portion of the project area provides marginal foraging habitat when compared to the large contiguous network of agricultural land consisting of flooded rice fields approximately 2.7 miles west of the project area. Large flocks of waterfowl are more likely to follow migration pathways over prime and easily accessible foraging habitat associated with agricultural fields rather than patchy, incontiguous networks of grassland intermixed with urban development. The agricultural fields provide optimal foraging habitat for large flocks of migratory birds, including waterfowl, along the migration pathway. Therefore, development under the proposed project would not be anticipated to result in significant impacts on migratory waterfowl during the migration seasons.

Other than the riparian woodland/emergent wetland/lacustrine habitat that is located in the prior excavated baseball field, the terrestrial habitats in the project area do not serve as significant wildlife corridors or linkages for special-status terrestrial species. However, during the survey conducted on April 2, 2019, a large rookery consisting of approximately 100 nesting black-crowned heron and five nesting cattle egret nests were observed within the narrow riparian woodland corridor on the edge of the pond. Between one and five nests were observed on each of the cottonwood (*Populus fremontii* ssp. *fremontii*) and willow (*Salix* sp.) trees on the southern, eastern, and northern sides of the pond. The remnant foundation of the partially constructed baseball stadium is located along the southern and western edges of the pond. No nests were observed in this area. The herons and egrets were observed perched on nests or foraging within the pond. It is unknown how long the complex has been utilized as a rookery. During a subsequent survey conducted on August 20, 2021, no birds were utilizing the nest trees within the rookery, although the remnant nests remained in the riparian woodland trees. The survey was conducted just after the completion of their nesting season. A single great blue heron was observed foraging in the pond.

In the context of other CEQA reviews, the removal of rookeries in urban and non-preserve areas has been viewed as a less-than-significant impact (following mitigation). Specifically, the

University of California, Davis Arboretum Heron Colony Management Plan found that there were no characteristics of the Shields Grove that make it uniquely suitable for nesting by herons and egrets. The Shields Grove is an oak woodland in an urban setting surrounded by similar oak woodland habitat types. The habitat features present in Shields Grove are not unique, similar habitats that provide other nesting opportunities for breeding herons and other birds utilizing the Shields Grove are common in the project vicinity and region, and disturbance leading to nest failure would be completely avoided; therefore, this impact was determined to be less than significant.[71] Similarly, the removal of a small rookery in the city of Oakland for the W12 Mixed Use Project was deemed less than significant (following mitigation), as the area was within a highly urbanized setting and did not provide suitable long-term habitat for the herons relative to other nearby habitats (e.g., Lake Merritt).[72]

The project area is located in a highly urbanized area in North Natomas. The excavation of the baseball field ceased in 2002. The dewatering system was built and operated between 2002 and 2011. The riparian woodland/emergent wetland/lacustrine habitat complex in the project area formed within the footprint of the excavated area proposed for the baseball field once dewatering/ pumping ceased in 2011. The remnants of that system remain today, but has not operated for the last 10 years. The riparian woodland/emergent wetland/lacustrine habitat complex has continued to increase in size to date.[73]

The black-crowned night heron is a cosmopolitan species that is a "fairly common, yearlong resident in lowlands and foothills throughout most of California."[74] It is a species that migrates widely from breeding colonies after nesting. Human disturbance of nesting colonies (based on a study in Quebec) resulted in nest abandonment, predation of eggs, and reduced late-season nesting. "Numbers have been reduced from drainage of marshes and swamps, and cutting of trees, but this species is more adaptable and persistent than most other ardeids."[75] Black-crowned night herons are known predators of the state-listed threatened tricolored blackbird (*Agelaius tricolor*). "Recently, especially in permanent freshwater marshes of the Central Valley, entire colonies have been lost to Black-Crowned Night-Herons (*Nycticorax nycticorax*) and Common Ravens (*Corvus corax*)."[76] The cattle egret is also a cosmopolitan species and is one of the most rapidly expanding bird species in the world, presumably because of its relationship with humans and their domesticated animals. Many populations of cattle egrets are highly migratory and

71 University of California, Davis, Office of Resource Management and Planning. 2009. *UC Davis Arboretum Heron Colony Management, Initial Study and Mitigated Negative Declaration.* March 2009. Available: https://environmentalplanning.ucdavis.edu/sites/g/files/dgvnsk2921/files/inline-files/is-arboretum-heron%203-4-09_0.pdf. Accessed July 29, 2019.

72 Environmental Science Associates. 2016. *W12 Mixed-Use Project CEQA Analysis. City of Oakland, California.* Available: http://www2.oaklandnet.com/oakca1/groups/ceda/documents/report/oak059795.pdf. Accessed July 29, 2019.

73 Google Earth. 2019. Aerial photographs from 1985-2019. Project Coordinates: 38° 38' 55.93″ N, 121° 31' 06.02″ W.

74 Granholm, S. 1988–1990. Black-Crowned Night Heron. In: California Department of Fish and Game, California Interagency Wildlife Task Group. California Wildlife Habitat Relationship System.

75 Granholm, S. 1988–1990. Black-Crowned Night Heron. In: California Department of Fish and Game, California Interagency Wildlife Task Group. California Wildlife Habitat Relationship System.

76 Beedy, E. C. 2008. Tricolored Blackbird (*Agelaius tricolor*). In *California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California*, eds. W. D. Shuford and T. Gardali, 437–443. Studies of Western Birds. 1. Camarillo and Sacramento, CA: Western Field Ornithologists and California Department of Fish and Wildlife.

disperse easily.[77] Both species appear to be more adaptable than other herons and egrets in their nesting behavior, although black-crowned night herons are sensitive to human disturbance.

The CNDDB describes five heron rookeries within 6 miles of the project area:

- Occurrence number 35, from 2016, is approximately 5.1 miles west of the project area along the Sacramento River. The CNDDB occurrence documents a large rookery in cottonwood trees on an annual basis between 2010 and 2016.
- Occurrence number 9, from 2002, is approximately 2.5 miles east of the project area along Steelhead Creek. The occurrence number documents an active rookery along a narrow valley oak riparian corridor between 1988 and 2002.
- Occurrence numbers 3 and 17, from 1989, are approximately 5.8 miles northwest of the project area within Rancho Llano Seco along the western bank of the Sacramento River. The occurrence numbers document a large rookery in a dense willow riparian corridor surrounded by rice fields and dry-crop agriculture.
- Occurrence number 88, from 2008, is approximately 3.6 miles southeast of the project area on the northern bank of the American River. The occurrence documents a small rookery in cottonwood trees within riparian habitat.

These CNDDB records contain habitat for suitable rookery sites similar to that of the riparian woodland/emergent wetland/lacustrine habitat present in the project area.[78]

No long-term impacts on the heron and egret colony are expected to result from the partial removal of the riparian woodland/emergent wetland/lacustrine habitat complex because the birds would likely utilize the preserved portion of the riparian woodland or relocate to the suitable rookery sites in the nearby vicinity (the Sacramento River, approximately 2.5 miles to the west; Steelhead Creek, 2.3 miles to the east; or the Lower American River Parkway, approximately 3.3 miles to the south). Because of the highly urbanized nature of the surrounding area, and the lack of connectivity to similar habitats, the riparian woodland/emergent wetland/lacustrine habitat complex would not be expected to serve as a significant regional terrestrial wildlife corridor, nor would project implementation be expected to interfere substantially with the movement of resident or migratory wildlife species, including migratory birds. Therefore, impacts on movement of terrestrial species under the proposed project would be **less than significant**.

CNU Medical Center

Construction of the hospital building associated with the CNU Medical Center would not result in a significant increase in bird collisions. As identified in Chapter 2, *Project Description*, all windows and glazing would use nonreflective materials or be designed to eliminate daytime glare. The overall building would be designed to meet the requirements of the Leadership in Energy and Environmental Design, or LEED, Pilot Credit 55. This credit analyzes all exterior

[77] Telfair, R. C. II. 2006. Cattle Egret (*Bubulcus ibis*). In *The Birds of North America Online,* ed. A. Poole. Ithaca: Cornell Lab of Ornithology. doi:10.2173/bna.113.

[78] California Department of Fish and Wildlife. 2021. California Natural Diversity Database RareFind 5 personal computer program (ver. 5.2.14). Available: https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed July 13, 2021.

materials used and limits the proportion of materials deemed to have a high threat factor to birds. This credit was crafted by the American Bird Conservatory and is its preferred guideline for building designers (as stated in its *Bird Friendly Building Design Guide*). In addition, development of the hospital building would be marked and lighted in accordance with the Federal Aviation Administration's Advisory Circular 70/7460-1L. The lighting and marking standards identified in the advisory circular were included to reduce impacts on migratory bird populations. Therefore, development of the CNU Medical Center would not result in significant impacts associated with bird strikes. This impact would be **less than significant.**

Mitigation Measure

None required.

Impact 4.3-8: Construction under the proposed Innovation Park PUD and CNU Medical Center could result in removal of protected trees and conflict with City of Sacramento policies protecting trees.

The following discussion evaluates the potential for project construction to affect protected trees or conflict with tree protection policies.

Innovation Park PUD

The Innovation Park PUD supports hundreds of landscape trees, many of which may be considered private trees protected by the City's tree ordinance (Sacramento City Code Chapter 12.56)[79] Arborist surveys have not been conducted for the Innovation Park PUD. The loss of protected trees, including oak trees (*Quercus* species), could conflict with the City's tree ordinance and would be a significant impact. Removal of trees may conflict with the Sacramento 2035 General Plan, Goal ER 2.1 and Policy ER 2.1.8, Oak Woodlands. Therefore, tree removal under the proposed project has the potential to result in the disturbance and/or loss of protected trees. The impact related to a loss of trees protected by the City's tree ordinance would be **significant**.

CNU Medical Center

The arborist survey report[80] identifies a total of 987 trees within a minimum 50-foot buffer around the CNU Medical Center. Of these, 111 are considered private protected trees. Removal of private protected trees within the CNU Medical Center site would result in impacts on locally protected trees. The loss of protected trees, including oak trees (*Quercus* species), could conflict with the City's tree ordinance and would be a significant impact. Removal of trees may conflict with the Sacramento 2035 General Plan, Goal ER 2.1 and Policy ER 2.1.8, Oak Woodlands. Therefore, construction under the proposed project has the potential to result in the disturbance and/or loss of protected trees. The impact related to a loss of trees protected by the City's tree ordinance would be **significant**.

[79] City of Sacramento. 2017. Sacramento City Code Chapter 12.56, Tree Planting, Maintenance, and Conservation. Available: www.qcode.us/codes/sacramento. Accessed April 12, 2017.

[80] Environmental Science Associates. 2021. Innovation Park Planned Unit Development/CNU Medical Center – Arborist Survey Report. September 7, 2021.

Mitigation Measure

Mitigation Measure 4.3-8(a): Conduct Arborist Survey of Trees within the Project Footprint to Comply with the City's Tree Ordinance. (PUD)

Should trees occur within the project footprint associated with the Innovation Park PUD, the project applicant shall retain a certified arborist to conduct an arborist survey to inventory all trees within the footprint.

Mitigation Measure 4.3-8(b): Obtain Permit for Removal of Protected Trees within the Project Footprint. (PUD, CNU)

Before the start of construction activities in the Innovation Park PUD and the CNU Medical Center involving any work that would remove protected trees as defined by Sacramento City Code Chapter 12.56, the applicant shall obtain a permit for the removal of protected trees. The project applicant shall comply with all conditions of any issued permit during construction.

Significance After Mitigation: Implementation of Mitigation Measure 4.3-8 (a) and (b) would reduce this impact to a **less-than-significant** level because the project would comply with the City's established requirements to avoid or mitigate the loss of protected trees.

Impact 4.3-9: Construction under the proposed project could conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

Innovation Park PUD and CNU Medical Center

Development in portions of the Natomas Basin is subject to the Natomas Basin Habitat Conservation Plan. The NBHCP establishes a multi-species conservation program to minimize and mitigate the expected loss of habitat values and incidental take of covered species that could result from urban development, operation and maintenance of irrigation and drainage systems, and certain activities associated with the Natomas Basin Conservancy's management of its system of reserves established under the NBHCP. The NBHCP applies to the 53,537-acre area interior to the toe of levees surrounding the Natomas Basin, with the exception of areas that were considered existing development when the NBHCP was established. Development in the NBHCP's covered areas is subject to HCP fees and compliance with the requirements of the NBHCP.

Because the project area is included in the list of existing development that is exempt from compliance with the NBHCP, development in the project area is not required to pay HCP fees or comply with the NBHCP.[81] Therefore, impacts on the NBHCP from construction under the proposed project would have **no impact**.

[81] City of Sacramento, Sutter County, and Natomas Basin Conservancy. 2003. *Final Natomas Basin Habitat Conservation Plan*.

Mitigation Measure

None required.

Cumulative Impacts

Because projects developed under the proposed Innovation Park PUD would be infill development surrounded largely by developed urban land uses, the cumulative context for impacts on special-status species focuses on the Sacramento metropolitan area, with additional context provided by the larger Sacramento Valley, based on the life histories and the extent of current habitats of relevant species. Over the last 150 or more years, development of the City of Sacramento and throughout the larger Sacramento Valley has resulted in the modification of natural habitats, such as the loss of wildlife habitat and open space areas as a result of urban and agricultural development, and the development of flood control infrastructure along the Sacramento and American Rivers.

Impact 4.3-10: Construction under the proposed project, in combination with other cumulative development, would contribute to the cumulative harm to, or loss of nesting habitat for, special-status bird species and other sensitive and/or protected bird species.

The cumulative context for nesting bird habitat includes Sacramento County. Historic and ongoing loss of natural habitats suitable for nesting birds has occurred as natural habitats have been converted to urban and agricultural development. These changes have affected special-status species such as Cooper's hawk, Swainson's hawk, burrowing owl, white-tailed kite, song sparrow, purple martin, tricolored blackbird, great egret, great blue heron, snowy egret, black-crowned night heron, and white-faced ibis, as well as other sensitive and/or protected bird species and more common migratory birds and raptors. Future development is expected to continue in the county. Projects in Sacramento County would be required to comply with local ordinances and policies, in addition to the CESA, the FESA, the CWA, the California Fish and Game Code, and other relevant regulation, permits, and requirements. Nevertheless, the loss of natural habitats for special-status bird species, other raptors, and nesting birds in Sacramento County would be a significant cumulative impact.

The project area contains habitats that have been highly modified or are of relatively low quality because of their urban nature or proximity to urban developments. Additionally, affected habitats are mostly isolated from other areas of similar habitat because of existing urban development. However, construction under the proposed project could directly affect special-status and protected bird species and their habitats, which would result in a considerable contribution to the cumulative loss within Sacramento County and the larger Sacramento Valley region. Therefore, this cumulative impact would be **significant**.

Mitigation Measures

Mitigation Measure 4.3-2(a): If Vegetation Removal Begins during Nesting Season, Conduct Preconstruction Survey for Active Raptor and Migratory Bird Nests and Implement Avoidance Measures.

Mitigation Measure 4.3-2(b): Conduct Preconstruction Surveys for Burrowing Owls and Implement Avoidance Measures.

Mitigation Measure 4.3-2(c): Conduct Preconstruction Surveys for Swainson's Hawk and Implement Avoidance and Minimization Measures.

See Impact 4.3-2, above, for the text of these mitigation measures.

Significance After Mitigation: With implementation of Mitigation Measures 4.3-2(a), 4.3-2(b), and 4.3-2(c) and compliance with applicable federal, State, and local policies and regulations, the contribution of construction under the proposed project to the cumulative impact on nesting birds and their habitat in the region would be reduced in magnitude. Project-related disturbance of special-status bird species and other sensitive and/or protected bird species would result in a less than considerable contribution to the cumulative loss of special-status bird species and other sensitive and/or protected bird species in the region, and this impact would be reduced to a **less-than-significant** level.

Impact 4.3-11: Construction under the proposed project, in combination with other cumulative development, would contribute to the cumulative loss of habitat, or impacts on bat species.

The context for cumulative impacts on bat species is Sacramento County. Roosting habitat for bat species has been lost as a result of the conversion of natural habitats to urban uses. As discussed in the City's 2035 General Plan, loss of habitats in Sacramento County is expected to continue into the reasonably foreseeable future, and this loss would be a significant cumulative impact.

As discussed in Impact 4.3-3, projects proposed under the Innovation Park PUD, including the CNU Medical Center, could further reduce available foliage-roosting habitat in Sacramento County by removing potential roosting trees, or reduce cavity-roosting habitat within buildings and structures in the project area. Removal of potential roosting trees and renovation and exclusion of bats from buildings and structures in the project area would be a considerable contribution to the cumulative impact of diminishment of roosting habitat available for bat species in Sacramento County. As a result, the cumulative impact related to the loss of roosting habitat for bat species would be **significant**.

Mitigation Measure

Mitigation Measure 4.3-3: Conduct Bat Habitat Assessment and Field Surveys and Avoid Disturbance of Maternity Roosts.

See Impact 4.3-3, above, for the text of this mitigation measure.

Significance After Mitigation: With implementation of Mitigation Measure 4.3-3, the contribution of construction under the proposed project to the cumulative impact on bat

species in Sacramento County would be reduced in magnitude. Project-related disturbance to bat species would result in a less than considerable contribution to the cumulative loss of bats within Sacramento County, and this impact would be reduced to a **less-than-significant** level.

Impact 4.3-12: Construction under the proposed Innovation Park PUD, in combination with other cumulative development, could contribute to the cumulative loss of special-status plant species.

The context for cumulative impacts on special-status plant species is Sacramento County. Future development in the County is expected to continue. Projects in Sacramento County would be required to comply with local ordinances and policies, in addition to the CESA, the FESA, the CWA, the California Fish and Game Code, and other relevant regulations, permits, and requirements. Nevertheless, the loss of natural habitats for special-status plant species in Sacramento County would be a significant cumulative impact.

The project area contains habitats that have been highly modified or are of relatively low quality because of their urban nature or proximity to urban developments. Additionally, affected habitats are mostly isolated from other areas of similar habitat because of existing urban development. However, construction under the proposed project could directly affect special-status plant species and their habitat, which would result in a considerable contribution to the cumulative loss in Sacramento County. Therefore, this cumulative impact would be **significant**.

Mitigation Measure

Mitigation Measure 4.3-4: Conduct Preconstruction Survey for Special-Status Plant Species and Prepare and Implement a Transplantation and Monitoring Plan if Necessary.

See Impact 4.3-4, above, for the text of this mitigation measure.

Significance After Mitigation: With implementation of Mitigation Measure 4.3-4, the contribution of construction under the proposed project to the cumulative impact on special-status plant species in Sacramento County would be reduced in magnitude. Project-related disturbance of special-status plant species would result in a less than considerable contribution to the cumulative loss of special-status plant species in Sacramento County, and this impact would be reduced to a **less-than-significant** level.

Impact 4.3-13: Construction under the proposed project, in combination with other cumulative development, would contribute to the cumulative loss of sensitive habitats, including protected wetland habitat as defined in Section 404 of the Clean Water Act, riparian vegetation, and state-protected waters/wetlands.

The context for cumulative impacts on wetlands and riparian habitat is the Central Valley. As a result of human settlement, riparian forests and wetland habitats were cleared and developed for

farming, lumber, flood control, and urban development, thus substantially reducing their extent compared to their native range. Since the 1800s there has been an approximately 95 percent reduction in wetland and riparian habitats. Future development pursuant to general plans of cities and counties throughout the Central Valley is anticipated to continue to result in the loss of these sensitive habitats. The loss of wetlands, riparian vegetation, and state-protected waters/wetlands would be a cumulative impact.

Given the urban nature of the project area, impacts on wetlands and other waters of the United States, riparian vegetation, and state-protected waters/wetlands are unlikely throughout the majority of the project area. Because of the significant historic decline in wetland and sensitive riparian habitat in the Central Valley, however, any loss of these sensitive habitat types would represent a considerable contribution to the loss of riparian and wetland habitats within the Central Valley. Therefore, this cumulative impact would be **significant**.

Mitigation Measures

Mitigation Measure 4.3-5(a): Acquire Applicable Wetland Permits before Issuance of Grading or Wrecking Permits.

Mitigation Measure 4.3-5(b): Develop Wetland Mitigation to Demonstrate No Net Loss of Wetlands and Other Waters.

Mitigation Measure 4.3-7(b): Compensate for Removal of Riparian Woodland Habitat.

See Impacts 4.3-5 and 4.3-7, above, for the text of these mitigation measures.

Significance After Mitigation: Implementation of Mitigation Measures 4.3-5(a), 4.3-5(b), and 4.3-7(b) would mitigate impacts on wetlands, riparian vegetation, and state-protected waters/wetlands in the project area. This would occur through a combination of restoration/enhancement and/or purchase of restoration credits to ensure no net loss. Therefore, the contribution of construction under the proposed project to the overall cumulative impact on waters of the United States, riparian habitat, and state-protected waters/wetlands would be less than considerable, and this impact would be reduced to a **less-than-significant** level.

Impact 4.3-14: Construction under the proposed project, in combination with other cumulative development, would contribute to the cumulative loss of locally protected trees.

The context for cumulative impacts on locally protected trees includes the city of Sacramento. Sacramento is known as the "City of Trees" and there are 6.9 million trees in the Sacramento region.[82] The Sacramento 2035 General Plan includes goals and policies to promote tree planting and protection of the urban forest to increase the city's tree canopy, and implements a tree ordinance protecting City trees and private protected trees. Future development in the city could

[82] Sacramento Tree Foundation. 2016. *Urban Forests for Clean Air*. Available: www.sactree.com/pages/471. Accessed May 31, 2019.

result in the loss of locally protected trees. The loss of locally protected trees would be a cumulative impact.

As discussed under Impact 4.3-8, construction under the proposed project could result in impacts on locally protected trees, and any loss of locally protected trees would represent a considerable contribution to the loss of locally protected trees in the city. This cumulative impact would be **significant**.

Mitigation Measure

Mitigation Measure 4.3-8(a): Conduct Arborist Survey of Trees within the Project Footprint to Comply with the City's Tree Ordinance.

Mitigation Measure 4.3-8(b): Obtain Permit for Removal of Protected Trees within the Project Footprint.

See Impact 4.3-8, above, for the text of this mitigation measure.

Significance After Mitigation: Implementation of Mitigation Measure 4.3-8 would reduce impacts on locally protected trees through compliance with established City requirements. Therefore, the contribution of construction under the proposed project to the overall cumulative impact on locally protected trees would be less than cumulatively considerable, and thus, the impact would be reduced to a **less-than-significant** level.

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4.4 Cultural and Tribal Cultural Resources

This section assesses the potential for the proposed Innovation Park PUD, including the CNU Medical Center (together referred to as the *proposed project*), to result in significant impacts on cultural resources and tribal cultural resources. *Cultural resources* include built-environment architectural resources, historical and prehistoric archaeological resources, and human remains. *Tribal cultural resources* are defined under Assembly Bill (AB) 52 as sites, features, places, cultural landscapes, sacred places, or objects with cultural value to a California Native American Tribe that are listed in or eligible for listing in the California Register of Historical Resources or included in a local register of historical resources.

In response to the Notice of Preparation (NOP) (see Appendices A and B), the Native American Heritage Commission (NAHC) commented on the requirement for consultation with California Native American Tribes traditionally and culturally affiliated with the Innovation Park PUD area (referred to in this section as the *project area*) and vicinity, in compliance with AB 52 and Senate Bill (SB) 18. The NAHC also recommended the following actions:

- Conduct a records search at the regional information center for the California Historical Research Information System (CHRIS).
- Complete an archaeological inventory survey.
- Contact the NAHC for a Sacred Lands File (SLF) search and a Native American Tribal Consultation List.
- Develop mitigation measures for the inadvertent discovery of archaeological resources or human remains even if consultation, the records search, the SLF search, and the archaeology survey do not identify any cultural resources or tribal cultural resources.

Section 4.4.1, *Environmental Setting,* addresses the NAHC comments and recommendations with documentation of (1) City consultation with Native American Tribes to date; (2) the results of the CHRIS records search, the historical map and aerial photograph research, and the archaeological sensitivity analysis conducted for the project area; and (3) the results of the field survey. Section 4.4.3, *Analysis, Impacts and Mitigation,* discusses impacts and mitigation measures that reflect the recommendations of the NAHC.

The cultural resources findings described in this section are based on the *Natomas Arena Reuse Planned Unit Development Cultural Resources Survey Report* prepared by Environmental Science Associates (ESA).[1]

4.4.1 Environmental Setting

Historical Environmental Setting

The project area is located in the southern portion of the Sacramento Valley, within the northern portion of California's Great Valley Geomorphic Province. The Great Valley, also

[1] Curry, B. 2019. *Natomas Arena Reuse Planned Unit Development Cultural Resources Survey Report.* Prepared for the City of Sacramento. Prepared by Environmental Science Associates, Sacramento, CA.

called the Central Valley, is a nearly flat alluvial plain that lies between the Sierra Nevada on the east and the Coast Ranges on the west. The valley's south end is defined by the Tehachapi Mountains north of Los Angeles, and its north end is defined by the Klamath Mountains. Subdivided into the Sacramento Valley to the north and the San Joaquin Valley to the south, the Great Valley has an average width of about 50 miles (80 kilometers [km]) and is about 400 miles (644 km) long overall.[2]

The Sacramento Valley contains thousands of feet of accumulated fluvial, overbank, and fan deposits resulting from erosion of the surrounding ranges[3] and river-based distribution of sediments. The sediments vary from a thin veneer at the edges of the valley to 50,000 feet (15.2 km) in the west-central portion. The Sacramento River is the main drainage of the northern Sacramento Valley, flowing generally south from the Klamath Mountains to its discharge point into Suisun Bay in the San Francisco Bay area. The confluence of the Sacramento and American Rivers is approximately 3.5 miles south of the project area. Before being confined by human-made levees, both rivers regularly flooded the area, thereby creating marshes, feeding ponds, and lakes; delivering alluvial sediments to the area; and creating natural levees along their banks.[4] Rivers in the Sacramento area were progressively confined by human-made levees starting in the mid-19th century, thus modifying the natural flow of the rivers and the river's delivery of water and sediments to the area. Many of the surrounding lands were reclaimed for agricultural use.

Before Euroamerican settlement in the Sacramento Valley, the dominant native vegetation in the Valley consisted of *Nasella pulchra*, or purple needlegrass.[5] This perennial grass is the distinctive and characteristic species for the Central Valley prairie. Although *N. pulchra* is a quintessential indicator species for the California prairie, the valley supported a mosaic of other plant communities. In particular, the numerous waterways bisecting the valley supported many riparian species. Common riparian species are willow (*Salix* sp.), buttonbush (*Cephalanthus occidentalis*), California sycamore (*Platanus racemosa*), and Fremont's cottonwood (*Populus fremontii*).

Indigenous Archaeology

Categorizing the indigenous pre-contact period into cultural stages allows researchers to describe a range of archaeological resources with similar cultural patterns and components during a given time frame, creating a regional chronology. Rosenthal et al.[6] provide a framework for interpretation of the Central Valley's indigenous pre-contact archaeological record. They have divided human history in the region into three basic periods: *Paleo-Indian* (13,550 to 10,550 years Before Present [BP]), *Archaic* (10,550 to 900 BP), and *Emergent* (900 to 300 BP). The

2 Bartow, J. A. 1991. *The Cenozoic Evolution of the San Joaquin Valley, California.* U.S. Geological Survey Professional Paper 1501. Washington, DC: U.S. Government Printing Office. Page 1.

3 Hackel, O. 1966. Summary of the Geology of the Great Valley. In *Geology of Northern California*, ed. E. H. Bailey, 217–238. California Division of Mines and Geology Bulletin 190. San Francisco, CA.

4 Leclerc, R. 2012. Understanding the Sacramento River Valley Before Levees and Dams. PowerPoint presentation, California Extreme Precipitation Symposium 2012, The 1861–1862 Floods: Informing Decisions 150 Years Later. June 26, 2012. Available: https://cepsym.org/Sympro2012/Leclerc.pdf. Accessed May 14, 2019.

5 Heady, H. F. 1977. Valley Grassland. In *Terrestrial Vegetation of California*, ed. M. G. Bargbour and J. Majour, 491–514. New York: John Wiley & Sons.

6 Rosenthal, J. S., G. G. White, and M. Q. Sutton. 2007. The Central Valley: A View from the Catbird's Seat. In *California Prehistory: Colonization, Culture, and Complexity*, ed. T. L. Jones and K. A. Klar, 147–163. Lanham, MD: AltaMira Press.

Archaic period is subdivided into three sub-periods: *Lower Archaic* (10,550 to 7550 BP), *Middle Archaic* (7,550 to 2,550 BP), and *Upper Archaic* (2,550 to 900 BP). Economic patterns, stylistic aspects, and regional phases further subdivide cultural patterns into shorter phases. This scheme uses economic and technological types, socio-politics, trade networks, population density, and variations of artifact types to differentiate between cultural periods. The following summary of the region's indigenous pre-contact archaeological record is derived principally from Rosenthal et al.[7] and Moratto.[8]

The Paleo-Indian Period (approximately 13,550 to 10,550 BP) in the Central Valley started when humans first entered the region sometime before 13,000 years ago. At that time, Pleistocene glaciers had receded to the mountain crests, leaving conifer forests on the mid and upper elevations of the Sierra Nevada and a nearly contiguous confer forest on the Coast Ranges. The Central Valley was covered with extensive grasslands and riparian forests, but the Sacramento–San Joaquin Delta (Delta) system of central California had not yet developed. The Central Valley was home to a diverse community of large Pleistocene mammals, which became extinct within the next few thousand years. These early people were apparently focused on large game hunting based on the large Clovis, or Clovis-like, projectile points and the paucity of plant processing tools. Archaeological resources from this period are rare, and researchers' understanding of lifeways during this period is incomplete.

The Lower Archaic (10,550 to 7550 BP) of the Central Valley witnessed the rapid expanse of oak woodland and grassland prairies as a result of climate change, and a significant period of soil deposition that capped older Pleistocene formations after 10,550 BP. Around 7,000 BP, a second period of substantial soil deposition occurred in the valley, thus creating a generally clear geological stratigraphic boundary for this sub-period. The first evidence of milling stone technology appears during the Lower Archaic, indicating an increased reliance on processing plants for food. Milling stones include hand stones and milling slabs and are frequently associated with a diverse tool assemblage including cobble-based pounding, chopping, and scraping tools. Milling tools were used for processing seeds and nuts. The Lower Archaic also saw the development of smaller but well-made stone projectile points and bifacial cutting tools, commonly formed from meta-volcanic greenstone and volcanic basalts.

The Middle Archaic (starting about 7,550 BP) was marked by a change in climate to warmer and drier conditions throughout the Central Valley. Oak woodland expanded upslope in the Coast Ranges and conifer forest moved into the alpine zone in the Sierra Nevada. Rising sea levels led to the formation of the Delta and associated marshlands. An initial period of upland erosion and lowland deposition was followed by a long period of stabilization of landforms. Scant evidence of human occupation from this period has been found in the Sacramento Valley or the adjacent Coast Ranges, with most Middle Archaic archaeological materials being found in the Sierra Nevada foothills in Calaveras and Tuolumne Counties.

[7] Rosenthal, J. S., G. G. White, and M. Q. Sutton. 2007. The Central Valley: A View from the Catbird's Seat. In *California Prehistory: Colonization, Culture, and Complexity*, ed. T. L. Jones and K. A. Klar, 147–163. Lanham, MD: AltaMira Press.

[8] Moratto, M. J. 2004. *California Archaeology.* Reprinted from 1984 edition. Salinas, CA: Coyote Press.

Evidence of human occupation in the Central Valley is much more extensive for the Upper Archaic (2,550 to 900 BP) than for earlier periods. The development of the Holocene landscape buried older deposits, resulting in the identification of more sites from the Upper Archaic than from older periods of development. Two fundamental adaptations developed side by side during the Upper Archaic period, evidenced by a diversification in settlement patterns. Populations in the valley tended toward large, high-density, permanent settlements. These villages were used as hubs from which the populace roamed to collect resources, using a wide range of technologies. The populations in the foothills and mountains lived in less dense settlements, moving with the seasons to maximize resource returns. Tools tended to be expedient and multipurpose for use in a wide variety of activities. Village sites show extended occupation as evidenced by well-developed midden, frequently containing hundreds of burials, storage pits, structural remains, hearths, ash dumps, extensive floral and faunal remains, and distinctive baked clay artifacts. The archaeological cultures of the Upper Archaic in the Sacramento area are sometimes referred to as the *Windmiller* and *Berkeley Patterns*.

The beginning of the Emergent Period (900 to 300 BP) is marked by a major shift in material culture, including the important introduction of the bow and arrow. The adoption of the bow occurred at slightly different times in various parts of the Sacramento Valley, but by 750 BP, it was in use in the Delta region. The bow was accompanied by the Stockton Serrated point, a seemingly local invention distinctive from point types used in other parts of present-day California. Other key elements of material culture from this period include the big-head effigy ornaments thought to be associated with the Kuksu religious movement. In areas where stone was scarce, baked clay balls are found, presumably for cooking in baskets. Other diagnostic items from this period are bone tubes, stone pipes, and ear spools. Along rivers, villages were frequently located on natural levees and are often associated with fish weirs, with fishing taking on an increasing level of importance in the diet of the local populace.

Ethnography and Ethnohistory

The ethnographic period, defined by the advent of written descriptions of native life, marks the close of pre-contact indigenous archaeological periods. During the time of European exploration in the late 18th century, Nisenan and Plains Miwok speakers were encountered in the vicinity of the present-day city of Sacramento and the surrounding area. Sacramento is situated within the somewhat ambiguous ethnographically defined border area between the regions occupied by speakers of the Nisenan, or Southern Maidu, language to the north and Plains Miwok speakers to the south. All of these peoples visited the rivers and wetlands in the Sacramento area during the winter months to gather certain plants, hunt and fish, and interact with neighboring villages to obtain items through trade and form social and political alliances.

The project area is located within Nisenan territory, but is close to the border area. Nisenan villages were located atop knolls along the edges of rivers and wetlands, and two ethnographically recorded Nisenan villages, *Totola* and *Pusune,* were located within a 1.5- to 2-mile radius of the project area.

Nisenan speakers, like many indigenous Californian peoples, lived in small family-based villages clustered around a larger central village that exercised limited economic and political control over

the smaller villages. The village clusters, sometimes called "tribelets," were generally economically, politically, and socially independent from other village clusters, although village clusters often participated in shared regional religious events and trade networks. The Nisenan generally built 10- to 15-foot-diameter dome-shaped houses covered in earth, tule mats, or grasses. Small villages generally contained between three and seven houses, and the larger central villages contained between 40 and 50 houses. The central villages also generally included a semi-subterranean dance house, which was dug 3–4 feet into the ground and built with heavier wood beams than village houses.[9]

Seasonal ripening defined the gathering of plant foods and resources for the Nisenan, and movement for gathering, hunting, and fishing occurred throughout the year. As with the majority of indigenous California groups, the Nisenan relied heavily on acorn for food. Other non-animal foods consisted of nuts, seeds, roots, greens, berries, and mushrooms. Animal foods included deer, tule elk, pronghorn antelope, jackrabbit, squirrel, beaver, quail, waterfowl, and a variety of fishes. Wooden digging sticks, poles, and baskets were used for gathering vegetal resources, while stone mortars, pestles, and cooking stones or baked clay spheres were used for processing foods. Items used for obtaining animal resources included nets, snares, seines, bows, and arrows. Arrow points were made primarily of basalt and obsidian.[10] Basket weaving was a highly developed technology amongst the Nisenan, as was the case with many indigenous California groups. At the time of European colonization, the Nisenan practiced the Kuksu religion, which at the time was the latest religion shared through much of Northern California. The Kuksu religion varied locally but had many shared ceremonies, dances, regalia, and initiation rites, and shared the ranking Kuksu deity.[11,12]

European incursions into the Central Valley occurred slowly during the mid-18th century, but during and after the Gold Rush period, Nisenan and other Central Valley Native American societies were severely disrupted by settlers, fighting, disease, and displacement. Today, a number of Central Valley Native American Tribes, which include Nisenan descendants, still have a strong presence in the Sacramento area, and are highly interested in their historic and pre-contact past.

Historical Era

The Spanish made forays into the Central Valley starting in the mid-18th century, and the earliest significant non-indigenous presence in the region began in 1808 when Gabriel Moraga led an expedition from Mission San Jose to the northern Sacramento Valley. However, the Sacramento Valley was still predominantly occupied by Native Americans, with only the occasional Spanish expedition into the interior to search for mission sites or escaped neophytes. By the late 1820s, English, American, and French fur trappers, attracted by the valley's abundance of animal life,

9 Wilson, N. L., and A. H. Towne. 1978. Nisenan. In *California*, ed. R. F. Heizer, 387–397. *Handbook of North American Indians*, Vol. 8, gen. ed. W. C. Sturtevant. Washington, DC: Smithsonian Institution.

10 Kroeber, A. L. 1976. *Handbook of the Indians of California.* Bureau of American Ethnology Bulletin 78. Smithsonian Institution, Washington, DC. Reprinted from 1925 edition. New York: Dover Publications, Inc.

11 Wilson, N. L., and A. H. Towne. 1978. Nisenan. In *California*, ed. R. F. Heizer, 387–397. *Handbook of North American Indians*, Vol. 8, gen. ed. W. C. Sturtevant. Washington, DC: Smithsonian Institution.

12 Kroeber, A. L. 1976. *Handbook of the Indians of California.* Bureau of American Ethnology Bulletin 78. Smithsonian Institution, Washington, DC. Reprinted from 1925 edition. New York: Dover Publications, Inc.

had established operations throughout the region. The earliest Euroamerican settlement of the area occurred in the 1840s with the establishment of land grants by the Mexican government. In 1839, John Sutter, born in Germany to Swiss parents, became a Mexican citizen and obtained Governor Juan B. Alvarado's permission to establish a settlement in the California interior. Sutter left Yerba Buena (modern-day San Francisco) in August 1839, traveling up the Sacramento River in search of a site for his estate. Sutter arrived at the confluence of the American and Sacramento Rivers, established a settlement, and received the first land grant in the region in 1841 for his New Helvetia Rancho. The New Helvetia Rancho encompassed 97 square miles and included lands on the east bank of the Feather and Sacramento Rivers. Sutter established Sutter's Fort and developed fisheries, a flourmill, and a lumber mill.[13]

The Sacramento Valley remained relatively isolated and sparsely populated until the advent of the Gold Rush period. During the Gold Rush, the small riverside settlement established by Sutter quickly took on the role of bustling port, as oceangoing ships and riverboats used the Sacramento River to transport goods and gold-seeking passengers to the mines in the slopes of the Sierra Nevada. John Sutter Jr. laid out a grid of streets extending from the waterfront and named the nascent town Sacramento. Commerce along the Sacramento River encouraged continued population growth, with many former miners settling along the natural levees of the Sacramento River as farmers after gold mining was consolidated by larger interests. These settlers recognized that the active floodplain deposited fertile soils on the lands nearest to the river, which supported bountiful crops and provided easy access to transportation corridors along the river itself. Ranchers and farmers found economic success in providing food and supplies for mining companies and their employees.[14]

Frequent flooding, however, troubled both the town of Sacramento and the settlers' agricultural efforts. The majority of flooding stemmed from the American River; during heavy rains, segments of the river north of Sacramento would experience severe flooding. The flood of 1861–1862 left portions of the town under 20 feet of water. To address this problem, the City of Sacramento dug a new mouth for the American River, rerouting it to better regulate flow, and built and promoted the building of levees along the river.

Land Reclamation and Natomas Area History

Early attempts of individual landholders to build levees and reclaim swamp and overflow land in the 1850s proved ineffective on a larger scale, and state legislators began to recognize that a system or network of levees and drainages was required. They also realized that a large amount of capital and labor was necessary to build strong levees, drain large plots of land, and maintain the system. In 1861, the California Legislature created the State Board of Swamp Land Commissioners. For the next two years, the board formed a system of reclamation and levees and laid out 30 districts. In 1866, the state abolished the Board of Swamp Land Commissioners and control of swamp and overflow land fell to the counties.

In 1887, Assemblyman C. C. Wright sponsored the Wright Act, which allowed the formation of irrigation districts under local public control. Most of the original districts failed because of

[13] Hoover, M. 2002. *Historic Spots in California.* Stanford, CA: Stanford University Press.
[14] Hoover, M. 2002. *Historic Spots in California.* Stanford, CA: Stanford University Press.

limited populations and capital, and costly lawsuits filed by large landowners and the holders of riparian water rights. In 1909, the Irrigation Bond Commission formed as a result of the Wright Act, and helped to resolve some of these issues.[15]

Reclamation District No. 1000

In 1911, a new State Reclamation Board was established, with jurisdiction over reclamation districts and levee plans. An act of the California Legislature created Reclamation District No. 1000 (RD 1000) in April 1911 to allow for the reclamation of the American Basin for agricultural purposes. The American Basin encompassed 70,000 acres along the east side of the Sacramento and Feather Rivers, with the Natomas area at its southern end. Until this point, the Natomas area had historically experienced flooding when the Sacramento and American Rivers overflowed their banks, and portions of Natomas were underwater for the greater part of the year. This historic flooding gave the area fertile soil to support the agriculture that dominated the area, and the Natomas Company of California owned the majority of the land, 54,000 acres, at the time. The 1911 act gave RD 1000 authority and responsibility for flood control and drainage.[16]

Reclamation in RD 1000 began in 1913 with construction of a perimeter levee system that was completed in 1915. Following completion of the levees, the district began construction of an interior drainage system including canals, ditches, and drains to collect both storm and agricultural runoff. The original system conveyed runoff to a pumping plant constructed in 1915 at the terminus of Second Bannon Slough, which is still in use today. The district constructed a second pumping plant in 1920, and a third plant in 1939, both located on the Sacramento River, north of Elverta Road and San Juan Road, respectively. RD 1000 eventually constructed five more pumping plants at various locations to accommodate local growth and development.

The Natomas area became agricultural lands following the initiation of the RD 1000 reclamation efforts, and remained a sparsely populated but agriculturally productive area for most of the 20th century. Natomas has seen increased urban development since the late 20th century, starting in the late 1970s and continuing through today, but much of the northern portion of RD 1000 remains agricultural land.

Methodology and Assumptions

Records Search

ESA conducted a records search at the North Central Information Center (NCIC) of the California Historical Resources Inventory System at Sacramento State University (file number SAC-19-50) on March 19, 2019. The NCIC maintains the official CHRIS records of previous cultural resources studies and recorded cultural resources for the project area and vicinity. The purpose of the records search was to: (1) determine whether known cultural resources have previously been

[15] Bradley, D., and M. Corbett. 1995. *Rural Historic Landscape Report for Reclamation District 1000 for the Cultural Resources Inventory and Evaluations for the American River Watershed Investigation, Sacramento and Sutter Counties, California*. Prepared for U.S. Army Corps of Engineers, Sacramento District. Prepared by Dames & Moore, Inc.

[16] Bradley, D., and M. Corbett. 1995. *Rural Historic Landscape Report for Reclamation District 1000 for the Cultural Resources Inventory and Evaluations for the American River Watershed Investigation, Sacramento and Sutter Counties, California*. Prepared for U.S. Army Corps of Engineers, Sacramento District. Prepared by Dames & Moore, Inc.

recorded in or within 0.5 mile of the project area; (2) assess the likelihood for unrecorded cultural resources to be present based on historical references and the distribution of nearby resources; and (3) develop a context for the identification and preliminary evaluation of cultural resources.

The records search consisted of an examination of the following documents:

- **NCIC base maps:** *Taylor Mountain, California* (U.S. Geological Survey [USGS] 7.5-minute topographic map)
- **Resource Inventories:** National Register of Historic Places (National Register), California Register of Historical Resources (California Register), California Historical Landmarks, California Points of Historical Interest, Historic Properties Directory Listing

Previously Recorded Resources in or Near the Project Area

The records search indicates that there are no previously recorded cultural resources in the project area, and that there are four cultural resources (P-34-000014, P-34-000741, P-34-000745, and P-34-001598) outside of the project area but within 0.5 mile. Two of the cultural resources within 0.5 mile of the project area are isolated indigenous artifacts found at two separate locations along the Natomas East Main Drainage Canal. The indigenous artifacts consist of an isolated obsidian debitage flake (P-34-000014) and a bowl mortar fragment (P-34-000745). The other two cultural resources within 0.5 mile of the project area are a historic-era road and a buried segment of concrete drainpipe. Del Paso Road (P-34-000741), a contributing resource to the RD 1000 Historic Rural Landscape (Study 11138 below), is north of the project area. The concrete drainpipe (P-34-001598) is northwest of the project area, and is likely an agricultural feature that dates to the early 1900s. **Table 4.4-1** summarizes the previously recorded resources identified during the records search.

TABLE 4.4-1
PREVIOUSLY RECORDED CULTURAL RESOURCES IN OR WITHIN 0.5 MILE OF THE PROJECT AREA

Primary (P-34-)	Trinomial (CA-SAC-)	Type	Age/ Affiliation	Name/Description	Recorder(s)	California Register Status
000014	[none]	Isolate	Indigenous	An isolated obsidian debitage flake found in disturbed and possibly imported sediments.	Dougherty and Thomas (1990)	Evaluated as Ineligible Isolate
000741	569H	Object, Site	Historic	Del Paso Road, which is a contributing resource to the RD 1000 National Register Rural Historic Landscape west of Interstate 5, but not near the project area.	Derr and Derr (1994); Derr and Derr (1998)	Non-contributing Resource in National Register District
000745	[none]	Isolate	Indigenous	An isolated bowl mortar fragment found in disturbed sediments.	Davy et al. (1992)	Evaluated as Ineligible Isolate
001598	[none]	Object	Historic	Water conveyance system—a buried east-west segment of concrete drainpipe dating to the early 1900s.	McIvers (2004)	Unevaluated

NOTES: National Register = National Register of Historic Places; RD 1000 = Reclamation District No. 1000

SOURCE: Data compiled by Environmental Science Associates at North Central Information Center, Sacramento State University, in 2019

Previous Studies in or Near the Project Area

The NCIC has records of 27 previous cultural resources studies conducted within 0.5 mile of the project area, seven of which partially or completely cover the project area. One study (3441), which covers part of the project area, identified an isolated bowl mortar fragment (P-34-000745) northeast of the project area that was noted as having been likely displaced by construction.[17]

One study (11138) that covers the entire project area is the documentation for the RD 1000 Rural Historic Landscape, an approximately 60,000-acre historic landscape listed in the National Register.[18] Contributing resources in the RD 1000 Rural Historic Landscape include select canals, levees, pumping plants, roads, and specific land use patterns formed by the preceding structures that retain their historical integrity in terms of location, design, setting, materials, workmanship, feeling, and association. The project area is in the southeastern corner of the RD 1000 Rural Historic Landscape; however, this area of the RD 1000 Rural Historic Landscape retains only a few contributing resources and is largely considered a noncontributing region to the larger historic landscape because of previous development. The only contributing resources in the RD 1000 Rural Historic Landscape located near the project area are Del Paso Road (P-34-000741) north of the project area and the Natomas East Main Drainage Canal, 0.25 mile east of the project area.

Historical Map and Aerial Photograph Research

The earliest USGS topographic map of the project area, from 1907, depicts the area as an undeveloped high ground northeast of Bush Lake and approximately 1 mile east of Fisherman's Lake. Fisherman's Lake today is a small lake west of Interstate 5, but during the historic era, Fisherman's Lake was much larger and connected to the west end of Bush Lake. The area was named Lonetree Island. The earliest aerial photograph of the project area, taken in 1937, shows the project area as an agricultural field with an irrigation canal in its northeastern corner, and shows that Bush Lake had been reclaimed by this date. Successive historical USGS topographic maps and aerial photographs indicate that the project area was continuously used for agriculture from 1937 to at least 1971, with the only consistently shown built resource being the irrigation canal in the northeastern corner. An unidentified building existed at the northern edge of the project area in 1957, but this building is not depicted on later topographic maps. The 1971 aerial photograph shows only a vacant work yard in the same location, which indicates that the building had been demolished during the previous decade.

In summary, the historical USGS topographic maps and aerial photographs indicate that the project area was either open space or agricultural fields for most of the 20th century, and the only potential built resource that consistently appears in the maps and photographs is an irrigation canal in the northeastern corner of the project area. **Table 4.4-2** summarizes the historical USGS topographic maps and aerial photographs of the project area reviewed for this study.

[17] Douglas, D. M. 1992. *Cultural Resources Survey of the Sacramento Power Project*. Prepared for ARK Energy, Inc. Prepared by Ebasco Environmental.

[18] Bradley, D., and M. Corbett. 1995. *Rural Historic Landscape Report for Reclamation District 1000 for the Cultural Resources Inventory and Evaluations for the American River Watershed Investigation, Sacramento and Sutter Counties, California*. Prepared for U.S. Army Corps of Engineers, Sacramento District. Prepared by Dames & Moore, Inc.

TABLE 4.4-2
HISTORICAL MAP AND AERIAL PHOTOGRAPH REVIEW OF THE PROJECT AREA

Date	Plate No.	Type	Name	Relevant Details Shown	Source
1907	1	Topographic Map	California Davisville Quadrangle	The 1907 topographic map depicts the project area as covering a relatively high-ground area on the north shore of Bush Lake, a lake that was filled within the next 30 years. The project area is named Lonetree Island and is at an elevation of 20 feet above sea level. No built features, such as buildings, irrigation structures, or roads, and no agricultural fields are depicted on the map.	USGS Topoview Natomas Area
1937	2	Aerial Photograph	Flight: ABC-1937 Frame: 49-32	The 1937 aerial photograph shows the project area as covering agricultural fields. Bush Lake is absent in this photograph, having apparently been filled as part of RD 1000 activities, but some potential relic high-ground areas of Lonetree Island are visible in the photograph. Irrigation canals are visible in the northeast corner and along the western border of the project area, and a north-south–aligned road is shown along the eastern edge of the project area. Del Paso Road is now visible adjacent to the northern boundary of the project area. The remaining portion of the project area appears to be agricultural fields.	UCSB Library Aerial Photograph Collection
1950	3	Topographic Map	Taylor Monument Quadrangle 7.5-Minute Series	The 1957 topographic map depicts the project area as covering portions of the irrigation canals and road shown in the 1937 aerial photograph, and shows Del Paso Road in its project location. The remaining portion of the project area appears to be open land with no built features.	USGS Topoview Natomas Area
1957	4	Aerial Photograph	Flight: abb-1957 Frame: 70t-1	The 1957 aerial photograph shows the same irrigation canals and roads as the 1950 topographic map and the 1937 aerial photograph, with the addition of a building along the northern boundary of the project area. Additional dirt roads and work yards are shown in the project area, while the remaining portion of the project area is shown as agricultural fields.	UCSB Library Aerial Photograph Collection
1967 [photo-revised 1980]	5	Topographic Map	Taylor Monument Quadrangle 7.5-Minute Series	The 1967 topographic map, as photorevised in 1980, depicts the project area covering or near the same irrigation canals and roads as the 1957 topographic map. The 1967 map does not show the building seen in the 1957 aerial photograph, nor does it show additional new built features.	USGS Topoview Natomas Area
1971	6	Aerial Photograph	Flight: cas-3069 Frame: 2-195	The 1971 aerial photograph shows the same irrigation canals and roads as the 1950 and 1967 topographic maps and the 1937 and 1957 aerial photographs. The building shown in the 1957 aerial photograph is absent in the 1971 photograph, as are the adjacent buildings, work yards, and dirt roads shown in and near the project area. The majority of the project area is now covered by agricultural fields.	UCSB Library Aerial Photograph Collection

NOTES: RD 1000 = Reclamation District No. 1000; UCSB = University of California, Santa Barbara; USGS = U.S. Geological Survey

SOURCE: Data compiled by Environmental Science Associates in 2019

Archaeological Sensitivity Analysis

An archaeological sensitivity analysis is a means of determining the relative potential of encountering previously unrecorded buried archaeological resources within an area. For the project area, attention was given to the relative balance between the *general* potential for buried archaeological deposits of any kind to be found in the project area and the potential *significance* of any possible buried archaeological deposits that might be encountered. The general potential for the presence of buried archaeological deposits was determined by assessing the age of surficial and subsurface soil units, the proximity of perennial freshwater sources, the proximity of known ethnohistoric indigenous sites or historic-era resources, and the density of nearby previously recorded archaeological resources. The term *archaeological deposits* herein refers to all archaeological materials, including isolated artifacts, but the term does not necessarily imply that the archaeological materials are significant under California Register criterion, or in current archaeological research.

The potential for finding significant buried cultural resources is based upon an informed estimate of the likelihood of encountering relatively undisturbed archaeological deposits that are likely to yield, or have the potential to yield, information important to the pre-contact archaeology or historic-era archaeology of the local area, California, or the nation, such that the archaeological deposit would have the potential to be eligible for the California Register or the National Register.[19] The age of soil units varies throughout the project area: 36 acres are Early Pleistocene sediments (1.9 million to 22,000 BP), 60 acres are Middle Holocene sediments (7,000 to 4,000 BP), 67 acres are Late Holocene sediments (4,000 to 150 BP), and 22 acres are historic-era sediments (150 BP to present).[20] The Late Pleistocene soils are the oldest soils in the project area, and have very low potential to contain buried archaeological deposits because they predate the earliest accepted date for the beginning of human occupation of the Central Valley, at approximately 13,550 BP.[21] All more recent soils have an increasing potential to contain buried archaeological deposits, relative to their age. **Table 4.4-3** outlines the soil units by age, acreage, location in regard to potential to contain buried archaeological deposits.

With regard to proximal freshwater sources, the project area is approximately 2.25 miles east and 3 miles north of the current courses of the Sacramento River and the American River, respectively. Neither major river is particularly close to the project area, but two water bodies were closer to the area until the early 20th century: the now-absent Bush Lake, which was in the project area, and the historically much larger Fisherman's Lake. Much of the project area was likely seasonal marshlands, but a roughly north-south strip through the center of the project area was approximately 5–10 feet higher than the surrounding area, and thus would have been an area of relative high ground next to Bush Lake. Such high-ground areas near rivers and other water

19 Hoffman, R., and P. Zimmer. 2016. *Rodent Abatement and Damage Repair Project Archaeological Sensitivity Analysis*. Prepared for the California Department of Water Resources, Sacramento. Prepared by Environmental Science Associates, Sacramento, CA.

20 Hoffman, R., and P. Zimmer. 2016. *Rodent Abatement and Damage Repair Project Archaeological Sensitivity Analysis*. Prepared for the California Department of Water Resources, Sacramento. Prepared by Environmental Science Associates, Sacramento, CA.

21 Meyer, J., and J. Rosenthal. 2008. *A Geoarchaeological Overview and Assessment of Caltrans District 3.* Prepared for California Department of Transportation District 3, Sacramento.

sources are common locations for indigenous archaeological sites.[22] The pond in the project area is of recent construction and is not a natural water feature.

TABLE 4.4-3
POTENTIAL FOR BURIED ARCHAEOLOGICAL DEPOSITS AND PREVIOUS IMPACTS IN SOILS IN THE PROJECT AREA

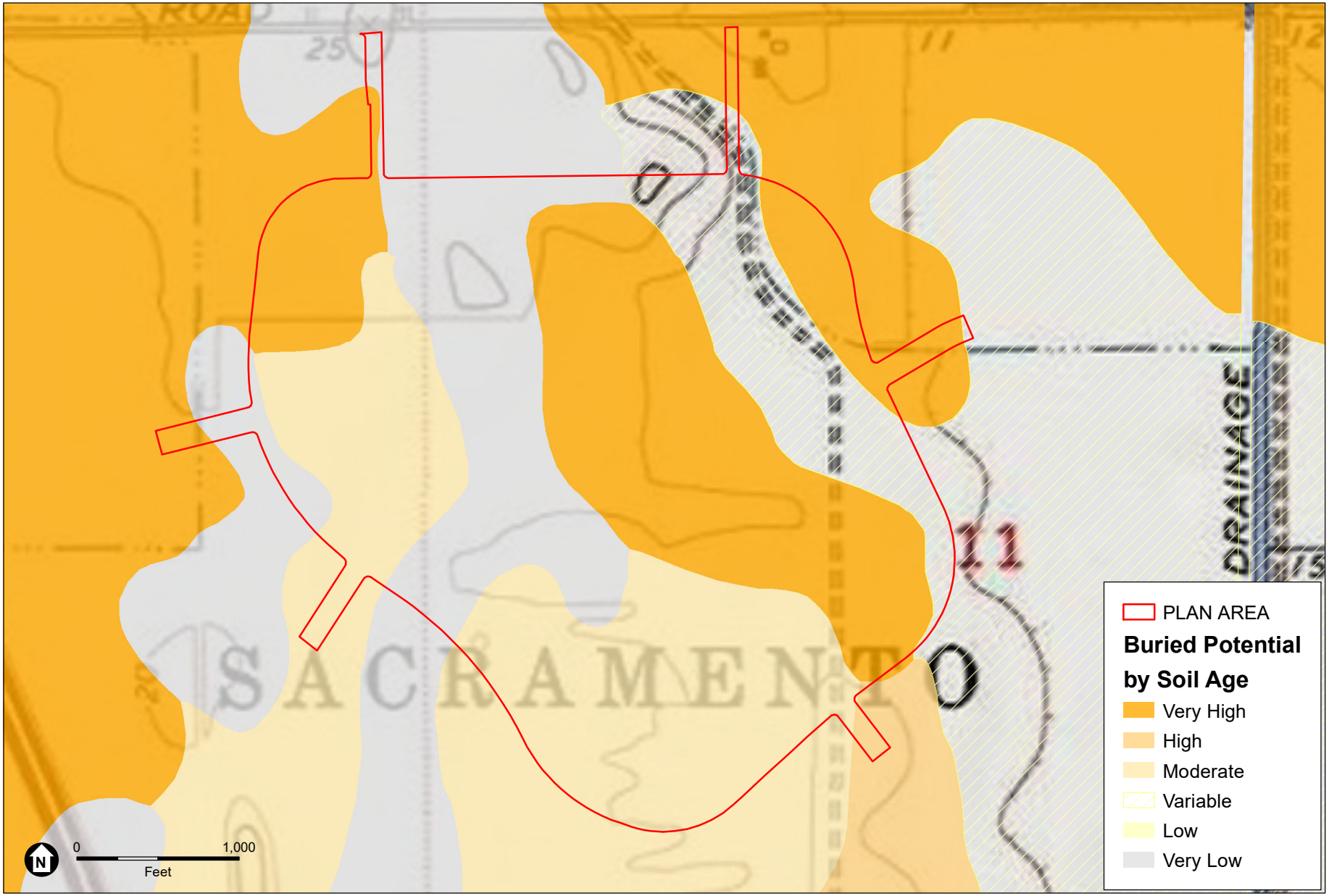
Soil Age	Soils	Figure 4.4-1 Color	Sensitivity (potential for buried deposits)	Acres	Location(s)	Previous Impacts in Soil Unit	Potential to Find Significant Buried Archaeological Deposits
Early Pleistocene	Durixeralfs San Joaquin silt loma	Gray	Low potential for buried, but surface finds possible	36	North-south strip across west of center of project area	None in the north. Baseball field and arena in the center. Parking lot in the south.	Low to none.
Middle Holocene	Jackstone clay	Light orange	Moderate potential	60	Primarily southern quarter of project area, and western edge of project area	Covered by parking lot in all areas.	Low, but moderate below parking lot base.
Late Holocene	Clear Lake clay Capay clay loam	Orange	High to very high	67	Northwest-southeast strip east of center of project area, and northwest and northeast corners of project area	None in northwest corner. Earthmoving and drainage ditch in northeast corner. Arena and related facilities, and parking lot in center and south.	Moderate to high in northern corners. Low to none near arena and related facilities (including baseball field). Low to moderate below parking lot.
Historic-era (post 1907 fill)	Cosumnes silt loam	Yellow hatch	Low to no potential for buried deposits	22	Northwest-southeast strip in northeastern corner of project area	Earthmoving and drainage ditch in northeast corner.	None for pre-contact archaeology, low for historic era.

SOURCE: Data compiled by Environmental Science Associates in 2021

There are two known ethnohistoric indigenous sites near the project area, but there are very few previously identified archaeological resources near the area. The project area is approximately 1.5 to 2 miles east of the ethnohistoric Nisenan villages *Totola* and *Pusune*, but the only previously recorded pre-contact indigenous archaeological materials within 0.5 mile of the project area are two isolated and fragmentary artifacts (P-34-000014, P-34-000745) that are not associated with known indigenous archaeological sites.

The preceding review of historical topographic maps and aerial photographs indicates that the project area was agricultural land until the 1970s and that the only built historic-era features in the area were an irrigation canal, dirt roads, work yards, and for a short period, a structure that may have been a barn or farm shed. These features are not present in the project area today, but were likely associated with the RD 1000 before urban development in the area. The buried segment of drainpipe (P-34-001598) adjacent to the project area also likely reflects RD 1000, but no other similar known historic-era archaeological resources are in or near the project area.

[22] Rosenthal, J. S., G. G. White, and M. Q. Sutton. 2007. The Central Valley: A View from the Catbird's Seat. In *California Prehistory: Colonization, Culture, and Complexity*, ed. T. L. Jones and K. A. Klar, 147–163. Lanham, MD: AltaMira Press.



SOURCE: NCIC #:SAC-19-50; USGS 1990; Hoffman and Zimmer, 2014; ESA, 2019

Innovation Park PUD

Figure 4.4-1
Cultural Resources
Soil Sensitivity Map

ESA

The potential to find *significant* intact archaeological resources is relatively low in most parts of the project area, given previous developments and attempted developments:

- The central portion of the project area around the Sleep Train Arena building is heavily developed. Regardless of soil type, it is very unlikely that intact, previously unrecorded archaeological resources would be found in the central portion of the project area.
- The same is the case for the area around the partially constructed baseball field and stadium north of the arena building. The soils around the partially constructed baseball field and stadium are Late Holocene and Pleistocene soils, but construction of the partially constructed baseball field and stadium and the surrounding earthmoving have disturbed both soil types.
- The southern, western, and eastern portions of the project area contain Pleistocene, Middle Holocene, and Late Holocene soils that are currently covered by a parking lot. It is very unlikely that intact previously unrecorded archaeological resources would be found at or above the base grade of the parking lot. However, because Middle Holocene and Late Holocene soils underlie the parking lot, there is a somewhat heightened potential to encounter previously unrecorded archaeological deposits below the base grade of the parking lot.
- The northwestern and northeastern corners of the project area, in which Late Holocene soils occur, also present a somewhat heightened potential for encountering intact archaeological resources. both because these soil types have a high general potential to contain archaeological deposits and because these locations are the least disturbed by previous developments, although some earthmoving has occurred.

In summary, most of the project area has been developed to a degree that makes it unlikely that significant intact buried archaeological resources would be identified. There is somewhat heightened potential to encounter previously unrecorded archaeological deposits in some portions of the project area, particularly the northwestern and northeastern corners, and areas below the lowest base grade of the parking lot in the southern and east-of-center portions of the project area.

Native American Consultation on Tribal Cultural Resources

ESA contacted the Native American Heritage Commission on March 12, 2019, to request a search of the NAHC's Sacred Lands File and a list of Native American representatives who may have information to provide on the project area, or who may have interest in the development of the proposed project. The NAHC replied to ESA on March 19, 2019, stating that the SLF has no record of any sacred sites within the project area. The NAHC response also included a list of Native American representatives from three Tribes who may be interested in the establishment of the proposed project. The listed Native American representatives and Tribes are: Chairperson Hitchcock at the Wilton Rancheria, Chairperson Whitehouse at the United Auburn Indian Community (UAIC) of the Auburn Rancheria, and Chairperson Dutschke Setchwaelo at the Ione Bank of Miwok Indians. The City is conducting all further consultation and communication with Native American tribes that are traditionally and culturally affiliated with the area and that had, at the time, requested to receive notification of such project.

At the time of the issuance of the NOP, two Tribes had requested to be notified regarding projects within their traditional geographic area of cultural affiliation, in accordance with Public Resources Code (PRC) Section 21080.3.1: the Wilton Rancheria and the UAIC of the Auburn

Rancheria. On January 30, 2019, the City sent letters to Chairperson Hitchcock at the Wilton Rancheria and Chairperson Whitehouse at the UAIC. Both Tribes responded requesting consultation. The City conducted consultation with the UAIC, which agreed to close consultation with the inclusion of mitigation measures for the inadvertent discovery of cultural materials and an awareness training before construction. Wilton Rancheria also provided information of sensitive resources within a mile of the project area and requested monitors during construction.

Field Survey

On April 4, 2019, ESA archaeologist Ben Curry conducted a survey of the project area. Intensive pedestrian survey methods were used in the undeveloped northern portion of the project area, except near the partially constructed baseball stadium and field due to topography and soil conditions, and consisted of walking in approximately 50-foot (15-meter)-spaced parallel transects while examining the ground surface. Modified intensive survey methods that followed the terrain were used within the fenced-in area around the partially constructed baseball stadium and field. In conjunction with the pedestrian survey in the northern portion of the project area, a 1-inch-diameter soil probe was used to sample ground soils for comparison to the soil units listed in the archaeological sensitivity analysis. At least five test probes were placed within each soil map unit identified in the archaeological sensitivity analysis.

Reconnaissance survey methods were used in the southern developed portion of the project area, particularly in the parking lot. The reconnaissance survey consisted of checking for any unpaved or non-landscaped areas, and examining a sample of landscaped features for native soils or displaced cultural materials. The reconnaissance survey covered the entire parking lot. Digital photographs were taken to document survey conditions.

Ground visibility in the area near the baseball field was between 10 and 20 percent because of grass ground cover. There was abundant evidence of earthmoving and landscaping in the fenced-in area around the partially constructed baseball stadium and field, including excavation for the sunken baseball field. The soil test probes confirmed that only the soils at original grade near the baseball field are consistent with the those in the archaeological sensitivity analysis map; the rest are a mix of surface soils, piles of sand and mixed alluvium near the baseball field that are likely from below the Pleistocene surface soils, and potentially imported soils. No cultural materials or evidence of archaeological deposits were observed near the baseball field.

The remainder of the northern portion of the project area outside of the fenced-in area is an open grassy field with some signs of previous earthmoving. The main evidence of previous earthmoving consists of mounds of soils and drainage ditches along the project area boundary and north of the parking lot. The soil test probes confirmed that the soils throughout the larger northern area are consistent with those in the archaeological sensitivity analysis. Ground visibility in this area was between 10 and 20 percent. No cultural materials or evidence of archaeological deposits were observed in this area.

The reconnaissance survey of the Sleep Train Arena building area and the parking lot confirmed that both areas are heavily modified by previous developments, and that no natural soil surfaces are visible. Ground visibility is 0 percent in the parking lot and 40–60 percent in landscaped areas

because of grass and planted vegetation. No cultural materials or evidence of archaeological deposits were observed near the arena or the parking lot.

The proposed CNU Medical Center would be located on approximately 35 acres in the southwest portion of the project area. The majority of the southwest portion of the project area consists of a paved parking lot and the private Sports Parkway, which surrounds the majority of the project area. This area was subject to a reconnaissance survey and no cultural materials were identified.

4.4.2 Regulatory Setting

State

California Environmental Quality Act

CEQA (PRC Section 21000 et seq.) is the principal statute governing environmental review of projects occurring in California. CEQA requires the lead agency for any project to determine whether the project would have a significant effect on historical resources, unique archaeological resources, or tribal cultural resources.

Historical Resources

The CEQA Guidelines establish that a *historical resource* includes any of the following:

- A resource in the California Register.
- A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g).
- Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and CEQA Guidelines Section 15064.5 apply. If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, the site may be treated in accordance with the provisions of PRC Section 21083, pertaining to unique archaeological resources.

Unique Archaeological Resources

As defined in PRC section 21083.2, a *unique archaeological resource* is an archaeological artifact, object, or site, about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

The CEQA Guidelines note that if an archaeological resource is not a unique archaeological, historical, or tribal cultural resource, the effects of the project on those cultural resources shall not be considered a significant effect on the environment (CEQA Guidelines Section 15064.5(c)(4)).

Tribal Cultural Resources

Impacts on tribal cultural resources are also considered under CEQA (PRC Section 21084.2). PRC Section 21074(a) defines a *tribal cultural resource* as any of the following:

1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
    a. Included or determined to be eligible for inclusion in the California Register; or
    b. Included in a local register of historical resources, as defined in PRC Section 5020.1(k).
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of [PRC] section 5024.1. In applying these criteria, the lead agency would consider the significance of the resource to a California Native American tribe.

Pursuant to PRC Section 21074(a)(c), a historical resource, unique archaeological resource, or non-unique archaeological resource may also be a tribal cultural resource if it is included or determined eligible for the California Register, included in a local register of historical resources, or determined to be such by a state lead agency.

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1(a)). The criteria for eligibility for the California Register are based on criteria for listing in the National Register (PRC Section 5024.1(b)). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a cultural resource must be significant at the federal, state, and/or local level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must be of sufficient age and retain enough of its historic character or appearance (integrity) to convey the reason for its significance.

Public Resources Code Section 5097.99

PRC Section 5097.99, as amended, states that no person shall obtain or possess any Native American artifacts or human remains that are taken from a Native American grave or cairn. Any person who knowingly or willfully obtains or possesses any such artifacts or human remains is guilty of a felony punishable by imprisonment. Any person who removes, without authority of law, any such items with intent to sell or dissect or with malice or wantonness is also guilty of a felony punishable by imprisonment.

California Native American Historic Resource Protection Act

The California Native American Historic Resources Protection Act of 2002 (PRC Section 5097.995 et seq.) imposes civil penalties, including imprisonment and fines of up to $50,000 per violation, for any person who unlawfully and maliciously excavates upon, removes, destroys, injures, or defaces a Native American historic, cultural, or sacred site that is listed or may be listed in the California Register.

Health and Safety Code Sections 7050.5 and 7052

Health and Safety Code (HSC) Section 7050.5 protects human remains by prohibiting the disinterment, disturbance, or removal of human remains from any location other than a dedicated cemetery. PRC Section 5097.98 (reiterated in CEQA Guidelines Section 15064.5(e)) also identifies steps to follow in the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery. HSC Section 7052 states that the disturbance of Native American, or any other, human remains is a felony, unless the disturbance has been lawfully authorized.

Assembly Bill 52

In September 2014, the California Legislature enacted AB 52, which added provisions to the Public Resources Code regarding consultation requirements with California Native American Tribes and the evaluation of impacts on tribal cultural resources under CEQA. AB 52 requires lead agencies to engage in consultation with California Native American Tribes to identify any known tribal cultural resources (PRC Sections 21080.3.1, 21080.3.2, and 21082.3). In addition, as discussed above, AB 52 requires lead agencies to analyze project impacts on tribal cultural resources, separately from archaeological resources (PRC Sections 21074 and 21083.09), in recognition that archaeological resources have cultural values beyond their ability to yield data important to prehistory or history. AB 52 defines tribal cultural resources in a new section of the Public Resources Code, Section 21074 (see the tribal cultural resources discussion above).

Senate Bill 18

SB 18 of 2004 requires cities and counties to notify and consult with California Native American Tribes about proposed local land use planning decisions for the preservation of, or the mitigation of impacts on, specified Native American places, features, and objects. SB 18 applies only to the adoption or substantial amendment of general plans and specific plans, and requires that the lead

CEQA agency consult with California Native American Tribes that are on the NAHC contact list and have traditional lands located within the agency's jurisdiction. Though predating AB 52, the requirements of SB 18 can be seen as similar to those of AB 52, in that they aim to allow California Native American Tribes the opportunity to consult on potential project impacts on tribal cultural resources.

Local

Sacramento 2035 General Plan

The Historic and Cultural Resource Element of the Sacramento 2035 General Plan (2015) contains several goals and policies relevant to the protection of cultural resources in the project area. The element provides policies directing the protection of historical, archaeological, and paleontological resources within the city. The following goals and policies from the 2035 General Plan are relevant to cultural resources:

Goal HCR 2.1: Identification and Preservation of Historic and Cultural Resources. Identify and preserve the city's historic and cultural resources to enrich our sense of place and our understanding of the city's prehistory and history.

Policy HCR 2.1.1: Identification. The City shall identify historic and cultural resources, including individual properties, districts, and sites (e.g., archaeological sites), to ensure adequate protection of these resources.

Policy HCR 2.1.3: Consultation. The City shall consult with appropriate organizations and individuals (e.g., California Historical Resources Information System (CHRIS) Information Centers, the Native American Heritage Commission (NAHC), the CA Office of Planning and Research (OPR) "Tribal Consultation Guidelines", etc.,) and shall establish a public outreach policy to minimize potential impacts to historic and cultural resources.

Policy HCR 2.1.6: Planning. The City shall take historical and cultural resources into consideration in the development of planning studies and documents.

Policy HCR 2.1.11: Compatibility with Historic Context. The City shall review proposed new development, alterations, and rehabilitation/remodels for compatibility with the surrounding historic context. The City shall pay special attention to the scale, massing, and relationship of proposed new development to surrounding historic resources.

Policy HCR 2.1.14: Adaptive Reuse. The City shall encourage adaptive reuse of historic resources when the original use of the resource is no longer feasible.

Policy HCR 2.1.16: Archaeological & Cultural Resources. The City shall develop or ensure compliance with protocols that protect or mitigate impacts to archaeological and cultural resources including prehistoric resources.

4.4.3 Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, impacts on cultural and tribal cultural resources may be considered significant if implementation of the proposed project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5;
- Disturb any human remains, including those interred outside of formal cemeteries; or
- Cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074.

Impacts and Mitigation Measures

There are no architectural historical resources, known archaeological resources, or known tribal cultural resources in the project area. Therefore, this section assesses potential impacts on previously unrecorded archaeological resources, both as historical resources as defined in CEQA Guidelines Section 15064.5, and unique archaeological resources as defined in PRC Section 21083.2(g), and including historical or archaeological resources with the potential to be considered tribal cultural resources as defined by PRC Section 21074(a). Human remains, including those buried outside of formal cemeteries, are also protected under several state laws, including PRC Section 5097.98 and HSC Section 7050.5.

Impact 4.4-1: Construction of development allowed under the proposed project could affect previously unrecorded historical resources and unique archaeological resources.

Innovation Park PUD

There is no evidence of historical or archaeological resources in the project area as identified by the background research, records search, or pedestrian survey, and the overall archaeological sensitivity of the project area is considered low. However, some portions of the project area have a slightly heightened potential for archaeological deposits because they are underlain by Middle and Late Holocene soils. The discovery of buried archaeological deposits is possible in the alluvial Middle and Late Holocene soils of the Sacramento Valley. If previously unrecorded archaeological deposits are identified in the project area, and the deposits are found to qualify as historical resources pursuant to CEQA Guidelines Section 15064.5 or unique archaeological resources as defined in PRC Section 21083.2(g), impacts on the resources would be **significant**.

CNU Medical Center

There is no evidence of historical resources or archaeological resources on the site of the proposed CNU Medical Center as identified by the background research, records search, or pedestrian survey conducted for the project, and the overall archaeological sensitivity of the

proposed CNU Medical Center site is low. However, as with the overall project area, if previously unrecorded archaeological deposits are identified on the proposed CNU Medical Center site and the deposits are found to qualify as historical resources pursuant to CEQA Guidelines Section 15064.5 or unique archaeological resources as defined in PRC Section 21083.2(g), impacts on the resources would be **significant**.

Mitigation Measures

Mitigation Measure 4.4-1(a) (PUD, CNU): Conduct Cultural Resources and Tribal Cultural Resources Sensitivity and Awareness Training Program Before Ground-Disturbing Activities.

A tribal cultural resources awareness brochure and training program for all personnel involved in project implementation shall be developed in coordination with interested Native American Tribes. The brochure shall be distributed and the training will be conducted by Native American representatives, or tribal monitors from culturally affiliated Native American Tribes, before any stages of project implementation and construction activities begin on the project site. The training may be done in coordination with the project archaeologist.

The program will include relevant information regarding sensitive tribal cultural resources, applicable regulations and protocols for avoidance, and consequences of violating state laws and regulations. The program will describe appropriate avoidance and minimization measures for resources that have the potential to be located on the project site and will outline what to do and whom to contact if any potential tribal cultural resources or archaeological resources are encountered. The program will underscore the requirement for confidentiality and culturally appropriate treatment of any find with cultural significance to Native Americans' tribal values. All operators of ground-disturbing equipment shall receive the training and sign a form that acknowledges receipt of the training.

Mitigation Measure 4.4-1(b) (PUD, CNU): Implement Avoidance and Minimization Measures to Avoid Significant Impacts and Procedures to Evaluate Resources.

If cultural resources or tribal cultural resources (such as structural features, unusual amounts of bone or shell, artifacts, or human remains) are encountered at the project site during construction, work shall be suspended within 100 feet of the find (based on the apparent distribution of cultural materials), and the construction contractor shall immediately notify the project's City representative. Avoidance and preservation in place is the preferred manner of mitigating impacts on cultural resources and tribal cultural resources. This may be accomplished, by several alternative means, including those listed below.

- Construction will be planned to avoid tribal cultural resources, archaeological sites, and/or other cultural resources; cultural resources will be incorporated within parks, green space, or other open space; archaeological resources will be covered; a cultural resource will be deeded to a permanent conservation easement; or the project will use other preservation and protection methods agreeable to the consulting parties and regulatory authorities with jurisdiction over the activity.

- Recommendations for avoidance of cultural resources and tribal cultural resources will be reviewed by the City representative, interested culturally affiliated Native American Tribes, and other appropriate agencies in light of factors such as costs,

logistics, feasibility, design, technology, and social, cultural, and environmental considerations, and the extent to which avoidance is consistent with project objectives. Avoidance and design alternatives may include realignment within the project site to avoid cultural resources or tribal cultural resources, modification of the design to eliminate or reduce impacts on cultural resources or tribal cultural resources, or modification or realignment to avoid highly significant features within a cultural resource or tribal cultural resource.

- Native American representatives from interested culturally affiliated Native American Tribes will be invited to review and comment on these analyses and shall have the opportunity to meet with the City representative and its representatives who have technical expertise to identify and recommend feasible avoidance and design alternatives, so that appropriate avoidance and design alternatives can be identified.
- If the discovered cultural resource or tribal cultural resource can be avoided, the construction contractor(s) will install protective fencing outside the site boundary, including a 100-foot buffer area, before construction restarts. The boundary of a cultural resource or a tribal cultural resource will be determined in consultation with interested culturally affiliated Native American tribes and tribes will be invited to monitor the installation of fencing. Use of temporary and permanent forms of protective fencing will be determined in consultation with Native American representatives from interested culturally affiliated Native American tribes.
- The construction contractor(s) will maintain the protective fencing throughout construction to avoid the site during all remaining phases of construction. The area will be demarcated as an "Environmentally Sensitive Area."

If a cultural resource or a tribal cultural resource cannot be avoided, the following performance standard shall be met before the continuance of construction and associated activities that may result in damage to or destruction of cultural resources or tribal cultural resources:

- Each resource will be evaluated for California Register of Historical Resources eligibility through application of established eligibility criteria (California Code of Regulations Title 14, Section 15064.636), in consultation with consulting Native American Tribes, as applicable.

If a cultural resource or a tribal cultural resource is determined to be eligible for listing in the California Register, the City will avoid damaging effects on the resource in accordance with PRC Section 21084.3. The City shall coordinate the investigation of the find with a qualified archaeologist (meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology) approved by the City and with interested culturally affiliated Native American tribes that respond to the City's invitation. As part of the site investigation and resource assessment, the City and the archaeologist shall consult with interested culturally affiliated Native American tribes to assess the significance of the find, make recommendations for further evaluation and treatment as necessary, and provide proper management recommendations should potential impacts on the resources be determined by the City to be significant. A written report detailing the site assessment, coordination activities, and management recommendations shall be provided to the City representative by the qualified archaeologist. These recommendations will be documented in the project record. For any recommendations made by interested culturally affiliated Native

American tribes that are not implemented, a justification for why the recommendation was not followed will be provided in the project record.

Native American representatives from interested culturally affiliated Native American tribes and the City representative will also consult to develop measures for long-term management of any discovered tribal cultural resources. Consultation will be limited to actions consistent with the jurisdiction of the City and taking into account ownership of the subject property. To the extent that the City has jurisdiction, routine operation and maintenance within tribal cultural resources retaining tribal cultural integrity shall be consistent with the avoidance and minimization standards identified in this mitigation measure.

If the City determines that the project may cause a significant impact on a tribal cultural resource, and measures are not otherwise identified in the consultation process, the following are examples of mitigation capable of avoiding or substantially lessening potential significant impacts on a tribal cultural resource or alternatives that would avoid significant impacts on the resource. These measures may be considered to avoid or minimize significant adverse impacts and constitute the standard by which an impact conclusion of less than significant may be reached:

- Avoid and preserve resources in place, including but not limited to planning construction to avoid the resources and protect the cultural and natural context, or planning green space, parks, or other open space to incorporate the resources with culturally appropriate protection and management criteria.
- Treat the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including but not limited to the following:
    - Protect the cultural character and integrity of the resource.
    - Protect the traditional use of the resource.
    - Protect the confidentiality of the resource.
    - Establish permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or using the resources or places.
    - Protect the resource.

Significance After Mitigation: Implementation of Mitigation Measures 4.4-1(a) and 4.4-1(b) (PUD, CNU) would reduce potential impacts of the proposed project on inadvertently discovered archaeological resources to a **less-than-significant** level by ensuring that any resources inadvertently discovered during construction would be evaluated for significance and treated appropriately in consultation with a culturally affiliated Native American tribe.

Impact 4.4-2: Construction of development allowed under the proposed project could affect human remains.

Innovation Park PUD

There is no indication that the project area contains human remains; however, the possibility cannot be entirely discounted. If any previously unknown human remains are identified in the project area, impacts from future development project(s) in the project area could be **significant**.

CNU Medical Center

There is no indication that the portion of the Innovation Park PUD site on which the proposed CNU Medical Center would be located contains human remains; however, the possibility cannot be entirely discounted. If any previously unknown human remains are identified on the proposed CNU Medical Center site, the impact would be **significant**.

Mitigation Measures

Mitigation Measure 4.4-2 (PUD, CNU): Implement Procedures in the Event of Inadvertent Discovery of Human Remains.

If an inadvertent discovery of human remains is made at any time during project-related construction activities or project planning, the following performance standards shall be met before implementing or continuing actions such as construction that may result in damage to or destruction of human remains. In accordance with the California Health and Safety Code (HSC), if human remains are encountered during ground-disturbing activities, the City shall immediately halt potentially damaging excavation in the area of the remains and notify the Sacramento County Coroner and a qualified archaeologist (meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology) to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (HSC Section 7050.5[b]).

If the human remains are of historic age and are determined by the Sacramento County Coroner to be not of Native American origin, the City will follow the provisions of HSC Section 7000 et seq. regarding the disinterment and removal of non–Native American human remains.

If the coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (HSC Section 7050[c]). After the coroner's findings have been made, the archaeologist and the NAHC-designated Most Likely Descendant, in consultation with the landowner, shall determine the ultimate treatment and disposition of the remains. The responsibilities of the City for acting upon notification of a discovery of Native American human remains are identified in Public Resources Code Section 5097.9 et seq.

Significance After Mitigation: Implementation of Mitigation Measure 4.4-2 (PUD, CNU) would reduce the potential impacts of the proposed project on inadvertently discovered human remains to a **less-than-significant** level by determining if the remains are Native American in origin and, if determined to be Native American, a Most Likely Descendant is assigned to determine the treatment.

Impact 4.4-3: Construction of development allowed under the proposed project could affect tribal cultural resources.

Innovation Park PUD

There is no record of tribal cultural resources in the project area as identified by the NAHC SLF's negative search results, background research, the records search, or the pedestrian survey. No specific information of the project area has been provided by the tribes during consultation. However, some portions of the project area have a slightly heightened potential for archaeological deposits because they are underlain by Middle and Late Holocene soils, and there are two ethnohistoric village sites outside of the project area but within 2 miles. Additionally, Native American representatives, through consultation, have described the general project area as having potential sensitivity for tribal cultural resources. The discovery of previously unrecorded buried indigenous archaeological deposits or human remains is therefore possible.

If previously unrecorded archaeological deposits are identified in the project area and are found to qualify as tribal cultural resources listed or determined eligible for listing in the California Register, or included in a local register of historical resources as defined in PRC Section 5020.1(k), pursuant to PRC Section 21074(a)(1), impacts on the resources would be **significant**.

CNU Medical Center

There is also no record of tribal cultural resources on the site of the proposed CNU Medical Center as identified by the NAHC SLF's negative search results, background research, the records search, or the pedestrian survey. If previously unrecorded archaeological deposits are identified on the proposed CNU Medical Center site, and are found to qualify as tribal cultural resources listed or determined eligible for listing in the California Register, or included in a local register of historical resources as defined in PRC Section 5020.1(k), pursuant to PRC Section 21074(a)(1), impacts on the resources would be **significant**.

Mitigation Measure

> **Mitigation Measure 4.4-3 (PUD, CNU): Implement Mitigation Measures 4.2-1(a) and 4.2-1(b) and/or Mitigation Measure 4.4-2, As Applicable.**
>
> **Significance After Mitigation:** Implementation of Mitigation Measure 4.4-3 (PUD, CNU) would reduce the potential impacts of the proposed project on inadvertently discovered tribal cultural resources to a **less-than-significant level**.

Cumulative Impacts

The cumulative context for cultural resources includes Sacramento County for historic-era archaeological resources, and the portions of Central Valley identified as the territory of the local Native American community for pre-contact indigenous archaeological resources. Historic-era archaeological resources tend to be concentrated within the historic city limits, but are not

confined to historically urban areas. Within the Sacramento city limits, excavations have uncovered evidence of pre-contact indigenous culture dating to 7,750 BP. Continued development in Sacramento increases the likelihood that previously unrecorded archaeological resources and human remains will be inadvertently discovered, and potentially affected before the resources have been evaluated for inclusion in the California Register, or for their historic and scientific value.

Impact 4.4-4: Construction of development allowed under the proposed project, in combination with other development, could contribute to the cumulative loss or alteration of historic-era and indigenous archaeological resources and/or human remains in archaeological contexts.

Cumulative development in Sacramento County and in portions of the Central Valley identified as the territory of the local Native American community or the area of historic-era use and occupation in Sacramento County could result in significant cumulative impacts on cultural and tribal cultural resources. Each individual project is subject to review under CEQA and is required to obtain necessary permits and approvals from federal and state resource agencies. As a result of these processes, each project would be required to avoid, minimize, and compensate for its impacts on sensitive cultural resources, such that the cumulative impact would be reduced, though not completely eliminated. Because not all such impacts from these other projects have been or can be reduced with certainty to less-than-significant levels, the loss of any cultural or tribal cultural resources would result in a significant cumulative impact.

No evidence of historic-era or indigenous archaeological resources in the project area was identified by the background research, records search, or pedestrian survey, and the archaeological sensitivity analysis conducted for this investigation indicates that the project site has a low archaeological sensitivity. There is no indication that the project site contains human remains; however, the possibility cannot be entirely discounted. Similarly, there is no evidence of tribal cultural resources in the project vicinity. The discovery of previously unknown archaeological resources or human remains, including those that could qualify as tribal cultural resources, is possible in the alluvial Middle and Late Holocene soils of the Sacramento Valley, such as the soils underlying portions of the project site. As a result, development allowed under the proposed project could result in a considerable contribution to the cumulative loss of cultural and tribal cultural resources in Sacramento County and in portions of the Central Valley, and this cumulative impact would be **significant**.

Mitigation Measure

> **Mitigation Measure 4.4-4 (PUD, CNU): Implement Mitigation Measures 4.2-1(a) and 4.2-1(b) and/or Mitigation Measure 4.4-2, as applicable.**
>
> **Significance After Mitigation:** Implementation of Mitigation Measure 4.4-4 (PUD, CNU) would effectively avoid damage to or loss of cultural and tribal cultural resources, and little to no residual impact would remain after mitigation. With implementation of this mitigation measure, the contribution of development allowed under the proposed project to this cumulative impact would be less than considerable, and this impact would be reduced to a **less-than-significant** level.

4.5 Energy Demand and Conservation

This section addresses the impacts of the proposed Innovation Park PUD, including the proposed CNU Medical Center (together referred to herein as the *proposed project*), on energy resources at both the state level and regionally. The analysis focuses on the California energy profile (i.e., mix of energy resources and consumption characteristics) and the energy production and transmission profile of Sacramento Metropolitan Utility District (SMUD) and Pacific Gas and Electric Company (PG&E), the regional purveyors of electricity and natural gas, respectively, to the proposed Innovation Park PUD area (referred to in this section as the *project area*) and vicinity.

This section also identifies the regulatory and policy frameworks that govern the production and consumption of energy resources and increase energy efficiency while reducing reliance on fossil fuels. The energy usage characteristics of development allowed under the proposed project are also examined to determine whether such development could result in any energy-related environmental impacts during construction or operational activities. Demand for energy (electricity, natural gas, fuel) as a result of implementation of the proposed project has been calculated for construction and operations. Impacts related to energy demand and conservation are analyzed and mitigation measures are described to avoid or reduce the magnitude of potential energy demand and conservation-related impacts as warranted.

The City received comments on the Notice of Preparation (NOP) related to energy demand and conservation; these comments are addressed in this section to the extent they pertain to the impacts of the proposed project (see Appendix B). NOP comments relevant to this section include requests for the City to evaluate impacts related to energy efficiency.

The analysis in this section was developed based on data obtained from the City, PG&E, SMUD, and the California Energy Commission (CEC). Additional data and information were gathered from the Sacramento 2035 General Plan,[1] the City of Sacramento 2035 General Plan Master EIR,[2] and other published technical reports, as indicated in the footnoted references. The modeling for the air quality and greenhouse gas (GHG) emissions analyses conducted for this project also inform the analysis presented in this section.

4.5.1 Environmental Setting

State Setting

In 2019 (the most recent year for which data are available), total energy usage in California was 7,802 trillion British thermal units (Btu), which equates to an average of 198 million Btu per capita. These figures place California first among the nation's 50 states in total energy use and last in per capita consumption. Of California's total energy usage, the breakdown by sector is roughly 39 percent transportation, 23 percent industrial, 19 percent commercial, and 19 percent

[1] City of Sacramento. 2015. *Sacramento 2035 General Plan.* Adopted March 3, 2015.

[2] City of Sacramento. 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report.* SCH No. 2012122006. Certified March 3, 2015.

residential.[3] In California, electricity and natural gas are generally consumed by stationary users such as residences and commercial and industrial facilities, whereas petroleum-based fuel consumption is generally accounted for by transportation-related energy use. California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources.

Electricity

In 2018, California's energy mix totaled 272,576 gigawatt hours (GWh) of electricity, of which 70 percent was from in-state electricity generation and the remaining 30 percent was imported from adjacent states in the Northwest and Southwest.

Total system electric generation for California for 2020 decreased by 6.7 percent from 2019's total generation of 200,704 GWh.[4] Electricity from non–carbon dioxide (CO_2) emitting electric generation categories (i.e., nuclear, large and small hydroelectric, and renewable generation) accounted for approximately 36 percent of total in-state generation for 2020, compared to 41 percent in 2019. As a result, California's in-state electric generation dropped by 5 percent in 2020. This decrease was due in part to reduced generation from hydroelectric power plants as dry conditions returned to the state. Net imports of electricity increased by 5.7 percent, offsetting the decline.

The overall decrease observed in California's total electric generation system for 2020 is consistent with the trends observed in energy demand. In recent years, electricity demand has been flat or declining slightly as energy efficiency programs have resulted in end-use energy reduction, and as customers install behind-the-meter solar photovoltaic (PV) systems that directly displace utility-supplied generation. In 2020, solar PV generation was estimated to be 27,179 GWh, a 56 percent increase since 2017. The strong growth in solar PV has had a measurable impact on utility-served load and, consequently, on the total system's electric generation.

California has approximately 80,303 megawatts (MW) of electric generation capacity installed across the state among more than 1,500 power plants that use a broad array of technologies. Total installed renewable generation capacity includes 12,746 MW from solar PV and 5,983 MW from wind. Large hydroelectric power plants, considered a zero-carbon resource, provide an additional 12,281 MW of capacity, while California's last remaining operational nuclear power plant, Diablo Canyon, provides approximately 2,400 MW. Natural gas–fired power plants make up 39,409 MW, or about half of the state's total generating capacity, but their energy is displaced by hydroelectric generation during wet years when spring runoff from snowpack is plentiful. The tremendous growth in utility-scale renewable generation has also helped reduce the state's reliance on natural gas, favoring those power plants that can provide fast-ramping capabilities to integrate wind and solar generation while displacing the use of aging steam generators that are slow to respond to changing grid conditions.

[3] U.S. Energy Information Administration (EIA). 2021. California State Profile and Energy Estimates. Available: https://www.eia.gov/state/print.php?sid=CA. Last updated February 18, 2021. Accessed August 11, 2021.

[4] California Energy Commission. 2021. 2020 Total System Electric Generation. Available: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2020-total-system-electric-generation. Accessed August 11, 2021.

Increasingly, electricity is used in multiple transportation modes, including light-duty vehicles, transit buses, and light and heavy rail. In California, its use is forecast to emerge in battery-electric medium-duty trucks, battery-electric buses, catenary-electric port drayage trucks, and high-speed rail. The CEC forecasts that the statewide electricity demand for electricity-powered transportation modes will increase from its current level of 2,000 GWh annually to between 12,000 and 18,000 GWh per year by 2030, depending on technology development and market penetration of the various vehicle types.[5]

Natural Gas

One-third of the energy commodities consumed in California consists of natural gas. Although natural gas is the most common energy source for electricity generation in California, 90 percent of the state's natural gas is imported from the Rocky Mountain region, the Southwest, and Canadian basins.[6] Californians consumed more than 13,158 million therms of natural gas in 2019, equal to 1,315,490,000 million Btu (MMBtu).[7] The natural gas market continues to evolve and service options expand, but its use falls mainly into the following four sectors: residential, commercial, industrial, and electric power generation. In addition, natural gas is a viable alternative to petroleum fuels for use in cars, trucks, and buses.

Nearly 45 percent of the natural gas burned in California is used for electricity generation, and most of the remainder is consumed in the residential (21 percent), industrial (25 percent), and commercial (9 percent) sectors.[8] Natural gas has become an increasingly important source of energy because the majority of the state's power plants rely on this fuel, providing the largest portion of the total in-state capacity and electricity generation in California.

Transportation Fuels

The energy consumed by the transportation sector accounts for roughly 41 percent of California's petroleum demand. Gasoline and diesel, both derived from petroleum (also known as crude oil), are the two most common fuels used for vehicular travel. According to the CEC, the state relies on petroleum-based fuels for 96 percent of its transportation needs. The transportation sector, including on-road and rail transportation (but excluding aviation), accounts for more than 96 percent of all motor gasoline use in the U.S., at roughly 3.4 million barrels in 2019. California is the third largest consumer of gasoline in the world, behind the U.S. (as a whole) and China.[9] In 2020, approximately 35 percent of California's crude oil was obtained from within the state, about 18 percent came from Alaska, and the remaining 47 percent came from outside the United States.[10]

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5 California Energy Commission. 2018. *Revised Transportation Energy Demand Forecast 2018–2030*. Publication Number: CEC-200-2018-003.

6 U.S. Energy Information Administration (EIA). 2021. California State Profile and Energy Estimates. Available: https://www.eia.gov/state/analysis.php?sid=CA. Last updated February 18, 2021. Accessed August 11, 2021.

7 California Energy Commission. 2021. Gas Consumption by County. Available: https://ecdms.energy.ca.gov/gasbycounty.aspx. Accessed August 11, 2021.

8 California Energy Commission. 2021. Supply and Demand of Natural Gas in California. Available: https://ww2.energy.ca.gov/almanac/naturalgas_data/overview.html. Accessed August 11, 2021.

9 U.S. Energy Information Administration. 2021. *Motor Gasoline Consumption, Price, and Expenditure Estimates 2019*. Available: https://www.eia.gov/state/seds/sep_fuel/html/fuel_mg.html. Accessed August 27, 2021.

10 California Energy Commission. 2021. Oil Supply Sources to California Refineries. Available: https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/oil-supply-sources-california-refineries. Accessed August 26, 2021.

In 2020, taxable gasoline sales (including aviation gasoline) in California amounted to approximately 14 billion gallons,[11] and taxable diesel fuel sales amounted to approximately 3 billion gallons.[12] Statewide, there was an overall decrease in gasoline and diesel consumption from 2007 to 2011 because of the economic recession, but consumption had increased since then. 2020 saw another drop again as a result of the COVID-19 pandemic.

The CEC forecasts that demand for gasoline in California will range from 12.3 billion to 12.7 billion gallons in 2030, with most of the demand generated by light-duty vehicles. While the models show an increase in light-duty vehicles along with population and income growth over the forecast horizon, total gasoline consumption is expected to decline, primarily because of increasing fuel economy (stemming from federal and state regulations) and displacement of gasoline vehicles from the increasing market penetration of zero-emission vehicles (ZEVs).

For diesel, demand is forecast to increase modestly by 2030, following the growth of California's economy; however, the demand will be tempered by an increase in fleet fuel economy and market penetration of alternative fuels, most prominently by natural gas in the medium- and heavy-duty vehicle sectors.[13]

California's oil fields make up the fourth largest petroleum-producing area in the United States, behind areas of federal offshore production, Texas, and North Dakota. Crude oil is moved from area to area within California through a network of pipelines that carry the oil from both onshore and offshore wells to refineries in the San Francisco Bay Area, the Los Angeles area, and the Central Valley. Currently, 16 petroleum refineries operate in California, processing approximately 2.0 million barrels per day of crude oil.[14]

Electricity consumption in the transportation sector is projected to increase to between about 12,000 and 18,000 GWh by 2030, a six-fold to nine-fold increase from 2017. The growth of light-duty plug-in electric vehicles is mostly responsible for the change in electricity demand, but increasing electrification in other transportation sectors also contributes to the projected increase in electricity consumption.[15]

Other transportation fuel sources used in California include alternative fuels, such as methanol and denatured ethanol (alcohol mixtures that contain no less than 70 percent alcohol), natural gas (compressed or liquefied), liquefied petroleum gas, hydrogen, and fuels derived from biological materials (i.e., biomass).

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11 California Department of Tax and Fee Administration. 2021. Net Taxable Gasoline Gallons, Including Aviation Gasoline. Available: https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm. Accessed August 26, 2021.

12 California Department of Tax and Fee Administration. 2021. Taxable Diesel Gallons 10 Year Report. Available: https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm. Accessed August 26, 2021.

13 California Energy Commission. 2018. *Revised Transportation Energy Demand Forecast, 2018–2030*. Publication Number: CEC-200-2018-003. February 2018. Available: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=17-IEPR-05. Accessed August 26, 2021.

14 California Energy Commission. 2021. California's Oil Refineries. Available: https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/californias-oil-refineries. Accessed August 26, 2021.

15 California Energy Commission. 2018. *Revised Transportation Energy Demand Forecast, 2018–2030*. Publication Number: CEC-200-2018-003. February 2018. Available: https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=17-IEPR-05. Accessed August 26, 2021.

Regional Setting

Electricity

SMUD is a publicly owned utility responsible for the generation, transmission, and distribution of electrical power to its 900-square-mile service area, which includes the project area. SMUD's service area includes most of Sacramento County and a small portion of Placer County. In 2020, SMUD obtained its electricity from the following sources: large hydroelectric (29 percent); natural gas (35 percent); and eligible renewable resources (34 percent), including biomass and waste, geothermal, eligible hydroelectric, solar, and wind. The remaining 2 percent came from nuclear and other unspecified power sources.[16] Sacramento County consumed 10,828 million GWh of electricity in 2019.[17]

Natural Gas

PG&E provides natural gas distribution, procurement, and storage in Sacramento County and is the only supplier of natural gas to the project area. As a regulated utility, PG&E is required to update its systems to meet any additional demand. PG&E provides service to 48 counties in California, with a total service area of approximately 70,000 square miles in Northern and Central California. The utility provides service via 42,141 miles of natural gas distribution pipelines and 6,438 miles of transmission and distribution pipelines. PG&E serves approximately 4.5 million natural gas distribution customers.[18] Natural gas distribution lines in new development are placed underground in accordance with California Public Utilities Commission (CPUC) regulations. Natural gas is supplied to the Sacramento area through a network of high- and low-pressure transmission and distribution systems. In 2019, natural gas consumption in Sacramento County was 31,178,994 MMBtu.[19]

Petroleum

Gasoline and diesel fuel are, by far, the largest volume transportation fuels used in Sacramento County. Estimated totals of 600 million gallons of gasoline and 87 million gallons of diesel were sold in Sacramento County in 2019.[20]

Existing Conditions

The project area has electrical and natural gas infrastructure from SMUD and PG&E, respectively, that serves the existing Sleep Train Arena building and supporting structures and the former Sacramento Kings practice facility. However, because none of these facilities are currently being used, existing energy consumption in the project area is minimal. The majority of the area is

16 Sacramento Municipal Utility District. 2019. 2020 Power Content Label. July 2019. Available: https://www.smud.org/-/media/Documents/Corporate/Environmental-Leadership/PowerContentLabel.ashx. Accessed August 26, 2021.

17 California Energy Commission. 2021. 2019 Electricity Consumption by County. Available: https://ecdms.energy.ca.gov/elecbycounty.aspx. Accessed August 26, 2021.

18 Pacific Gas and Electric Company. 2021. Company Profile. Available: https://www.pge.com/en_US/about-pge/company-information/profile/profile.page. Accessed August 26, 2021.

19 California Energy Commission. 2021. 2019 Gas Consumption by County. Available: http://ecdms.energy.ca.gov/gasbycounty.aspx, accessed August 26, 2021.

20 California Energy Commission. 2021. *2010–2019 California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets*.

covered by paved parking areas and the northern portion of the project area is currently undeveloped. Existing infrastructure would be used and expanded to serve the rest of the project area as necessary.

4.5.2 Regulatory Setting

Federal

National Energy Conservation Policy Act

The National Energy Conservation Policy Act (NECPA) serves as the underlying authority for federal energy management goals and requirements. Signed into law in 1978, it has been regularly updated and amended by subsequent laws and regulations. This act is the foundation of most federal energy requirements. NECPA established energy efficiency standards for consumer projects and includes a residential program for low-income weatherization assistance, grants and loan guarantees for energy conservation in schools and hospitals, and energy efficiency standards for new construction. Initiatives in these areas continue today.

National Energy Policy Act of 2005

The National Energy Policy Act of 2005 sets equipment energy efficiency standards and seeks to reduce reliance on nonrenewable energy resources and provide incentives to reduce current demand on these resources. For example, consumers and businesses can attain federal tax credits for purchasing fuel-efficient appliances and products, including hybrid vehicles; constructing energy-efficient buildings; and improving the energy efficiency of commercial buildings. Additionally, tax credits are available for installing qualified fuel cells, stationary microturbine power plants, and solar power equipment.

Executive Order 13423 (Strengthening Federal Environmental, Energy, and Transportation Management), signed in 2007, strengthens the key energy management goals for the federal government and sets more challenging goals than the Energy Policy Act of 2005. The energy reduction and environmental performance requirements of Executive Order 13423 were expanded upon in Executive Order 13514 (Federal Leadership in Environmental, Energy, and Economic Performance), signed in 2009.

Energy and Independence Security Act of 2007

The Energy and Independence Security Act of 2007 sets federal energy management requirements in several areas: energy reduction goals for federal buildings, facility management and benchmarking, performance and standards for new buildings and major renovations, high-performance buildings, energy savings performance contracts, metering, and energy-efficient product procurement. It also sets requirements for reductions in petroleum use, such as by setting automobile efficiency standards and encouraging increases in the use of alternative fuels. This act also amends portions of the National Energy Policy Conservation Act.

Corporate Average Fuel Economy Standards

Established by Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National

Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency jointly administer the CAFE standards. Congress has specified that the CAFE standards must be set at the "maximum feasible level" with consideration given for technological feasibility, economic practicality, the effect of other standards on fuel economy, and the need for the nation to conserve energy.[21]

State

Warren-Alquist Act

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as the California Energy Commission or CEC. The act established a state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures.

California Energy Action Plan

California's *2008 Energy Action Plan Update* revised the *2005 Energy Action Plan II,* the state's principal energy planning and policy document. The plan maintains the goals of the original *Energy Action Plan*, describes a coordinated implementation plan for state energy policies, and identifies action areas to ensure that California's energy is adequate, affordable, technologically advanced, and environmentally sound.

State of California Integrated Energy Policy

In 2002, the Legislature enacted Senate Bill (SB) 1389, which required the CEC to develop an integrated energy plan biannually for electricity, natural gas, and transportation fuels, for the California Energy Report. SB 1389 requires the CEC to prepare a biennial integrated energy policy report (IEPR) that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code Section 25301[a]). The IEPR has replaced the 2008 Energy Action Plan as the chief program intended to provide a comprehensive statewide energy strategy to guide energy investments, energy-related regulatory efforts, and GHG reduction measures.

The most recent update to the IEPR (2018) examines how California's energy system must be transformed to meet the state's 2030 GHG emissions reduction goal, including implementation of SB 350 (De Leon, Chapter 547, Statutes of 2015) to double the energy efficiency of existing buildings and SB 100's target of achieving 60 percent renewables in the electricity supply by 2030. The report also covers policies and trends in integrated resource planning, distributed energy resources, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas (in response to SB 1383), the natural gas outlook, and solutions to increase resiliency in the

[21] For more information on the Corporate Average Fuel Economy standards, see https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy. Accessed March 2019.

electricity sector. The key strategies identified in the most recent (2018) IEPR Update are summarized below.[22]

Decarbonizing the Electricity Sector

Decarbonizing the electricity sector is part of an integrated approach to reducing emissions from energy use. In 2018, about 34 percent of the electricity used to serve California was produced from renewable resources.

The electricity sector is leading the state's efforts to reduce GHG emissions. Although the state's GHG reduction goals (i.e., Assembly Bill [AB] 32 and SB 32) are economy-wide, in 2016 the electricity sector surpassed AB 32's 2020 goal and nearly met SB 32's 2030 goal (see Section 4.6, *Global Climate Change*, for more information about AB 32 and SB 32). In 2016, GHG emissions from the electricity sector were 37.6 percent below 1990 levels. These gains are largely attributable to advancements in energy efficiency, increased use of renewable energy resources, and reduced use of coal-fired electricity. To further reduce GHG emissions, California is increasingly using renewable resources to produce electricity while planning for increased demand from transportation electrification and other opportunities for electrification.

In 2018, solar energy accounted for 43 percent of the state's renewable energy generation.[23] The increase in solar and other renewables is a California success story in reducing GHG emissions, but also creates operational challenges. Grid operators must manage the ramp-up of solar generation as it peaks midday and then ramps down at sunset while electricity demand remains high.

The 2018 IEPR emphasizes the current challenge the state faces in increasing its ability to integrate more renewable energy into the grid. There is an increasing need for energy storage that can balance supply and demand by absorbing excess energy and reinjecting it into the grid when demand increases. There is also a need for transmission investments to link the state's extensive renewable resources to load centers throughout the grid. The challenges are compounded by increasing numbers of Californians who are generating, and in some cases storing, their own electricity, or are purchasing electricity from local providers called *community choice aggregators.*

Energy Efficiency and Building Decarbonization

In 2017, as called for in SB 350, the CEC established ambitious annual targets to achieve a statewide doubling of cumulative energy efficiency savings in electricity and natural gas end uses by 2030. The CEC developed the doubling targets in collaboration with the CPUC, investor-owned utilities, publicly owned utilities, and other stakeholders through a public process. However, the state will need additional efforts to decarbonize homes and businesses to meet California's goals for 2030 and 2050.

As spelled out in the California Energy Efficiency Strategic Plan, the CPUC has set a goal of achieving zero net energy performance for all new low-rise homes constructed in or after 2020,

[22] California Energy Commission. 2019. *2018 Integrated Energy Policy Report Update*. Available: https://ww2.energy.ca.gov/2018_energypolicy/. Accessed November 19, 2019.

[23] California Energy Commission. 2019. 2018 Total System Electric Generation. Available: https://www.energy.ca.gov/almanac/electricity_data/total_system_power.html. Updated June 24, 2019. Accessed November 17, 2019.

and for all new commercial buildings constructed in or after 2030. The latest adopted building energy standards (2019 Title 24 standard, described below), require, for the first time, PV installations on new homes.

Transportation Electrification

California is working to transform the transportation sector away from petroleum to near-zero-emission vehicles operating with low-carbon fuels and ZEVs that run on electricity from batteries or hydrogen fuel cells. Because the transportation sector accounts for almost half of the state's GHG emissions,[24] the state is advancing goals, policies, and plans to support the proliferation of zero-emission and near-zero-emission vehicles. As described in more detail below, the Governor's Executive Orders have set goals of reaching 1.5 million ZEVs on California's roadways by 2025 and 5 million by 2030. As usage grows, ZEVs will have an increasing role in grid management and the integration of renewables in particular.

Title 24—California Energy Efficiency Standards

The Energy Efficiency Standards for residential and nonresidential buildings specified in California Code of Regulations (CCR) Title 24, Part 6 were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated approximately every three years to allow for consideration and possible incorporation of new energy-efficiency technologies and methods. The current standards became effective on January 1, 2020. The 2019 Title 24 standards require solar PV systems for new homes, encourage demand-responsive technologies including battery storage and heat pump water heaters, and improve the thermal envelopes of buildings through high-performance attics, walls, and windows. In nonresidential buildings, the standards update indoor and outdoor lighting, making maximum use of LED technology.[25] The next update to the Title 24 energy efficiency standards (2022 standards) is scheduled to go into effect on January 1, 2023. Title 24, Part 6 is updated approximately every three years.

California Green Building Standards Code

Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. CALGreen is intended to encourage more sustainable and environmentally friendly building practices, require low-pollution–emitting substances that cause less harm to the environment, conserve natural resources, and promote the use of energy-efficient materials and equipment. Since 2011, the CALGreen Code has been mandatory for all new residential and nonresidential buildings constructed in the state. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality.

[24] California Air Resources Board. 2019. *California Greenhouse Gas Emissions for 2000–2017: Trends of Emissions and Other Indicators.* Figure 20a. Available: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf.

[25] California Energy Commission. 2019. 2019 Building Energy Efficiency Standards–Fact Sheet. Available: https://ww2.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf.

The CALGreen Code was updated in 2016 to include new mandatory measures for residential and nonresidential uses; the new measures took effect on January 1, 2017.[26] The 2019 CALGreen Code updates, which took effect on January 1, 2020, incorporate amendments to electric vehicle charging spaces, outdoor water use provisions, and clarifications.[27]

Renewables Portfolio Standard

The State of California has adopted a Renewables Portfolio Standard (RPS) to increase the percentage that retail sellers of electricity, including investor-owned utilities and community choice aggregators, must provide from renewable resources. Qualifying renewables under the RPS include bioenergy such as biogas and biomass, small hydroelectric facilities (30 MW or less), wind, solar, and geothermal energy. The CPUC and CEC jointly implement the RPS program. The CPUC's responsibilities include the following:

- Determine annual procurement targets and enforce compliance.
- Review and approve each investor-owned utility's renewable energy procurement plan.
- Review contracts for RPS-eligible energy.
- Establish the standard terms and conditions used in contracts for eligible renewable energy.

Executive Orders S-14-08 and S-21-09

In November 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which expanded the state's RPS to 33 percent renewable power by 2020. In September 2009, Governor Schwarzenegger continued California's commitment to the RPS by signing Executive Order S-21-09, which directed the California Air Resources Board (CARB) under AB 32 authority to enact regulations to help the state meet its RPS goal of 33 percent renewable energy by 2020.

Senate Bill 350—Clean Energy and Pollution Reduction Act of 2015

SB 350, known as the Clean Energy and Pollution Reduction Act of 2015, was enacted on October 7, 2015, and provides a new set of objectives in clean energy, clean air, and pollution reduction by 2030. The objectives include the following:

- To increase from 33 percent to 50 percent the procurement of our electricity from renewable sources.
- To double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

Senate Bill 100

On September 10, 2018, Governor Jerry Brown signed SB 100, establishing that all electricity in California must be obtained from renewable and zero-carbon energy resources by December 31, 2045. SB 100 goes beyond the RPS goals established by SB 350 in 2015. Specifically, the law

[26] California Building Standards Commission. 2016. 2016 California Green Building Standards Code (Part 11 of Title 24). Available: https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen.

[27] California Building Standards Commission. 2019. California Green Building Standards Code (Part 11 of Title 24). Available: https://calgreenenergyservices.com/wp/wp-content/uploads/2019_california_green_code.pdf. Accessed August 2021.

increases the percentage of energy that must come from renewable sources for both investor-owned utilities and publicly-owned utilities from 50 percent to 60 percent by 2030. Incrementally, the law required these energy providers to have a renewable energy supply of 33 percent by 2020, 44 percent by 2024, and 52 percent by 2027. The updated RPS goals are considered achievable because many California energy providers are already meeting or exceeding the RPS goals established by SB 350.

Appliance Efficiency Regulations, California Code of Regulations Title 20

California's Appliance Efficiency Regulations (20 CCR 160–1608) contain standards for both federally regulated appliances and non-federally regulated appliances. The regulations are updated regularly to allow consideration of new energy efficiency technologies and methods. The current regulations were adopted by the CEC on November 18, 2009. The standards outlined in the regulations apply to appliances that are sold or offered for sale in California. More than 23 different categories of appliances are regulated, including refrigerators, freezers, water heaters, washing machines, dryers, air conditioners, pool equipment, and plumbing fittings.

Transportation Energy

Assembly Bill 1007 (Pavley)—Alternative Fuel Standards

AB 1007 (Pavley, Chapter 371, Statutes of 2005) required the CEC to prepare a state plan to increase the use of alternative fuels in California. The CEC prepared the State Alternative Fuels Plan in partnership with CARB and in consultation with other federal, state, and local agencies. The final State Alternative Fuels Plan, published in December 2007, attempts to achieve an 80 percent reduction in GHG emissions associated with personal modes of transportation, even as California's population increases.

Assembly Bill 1493 (Pavley)

Because the transportation sector accounts for more than half of California's CO_2 emissions, AB 1493 (commonly referred to as CARB's Pavley regulations), enacted on July 22, 2002, requires CARB to set GHG emissions standards for new passenger vehicles, light-duty trucks, and other vehicles manufactured in and after 2009 whose primary use is noncommercial personal transportation. Phase I of the legislation established standards for model years 2009 through 2016 and Phase II established standards for model years 2017 through 2025. See Section 4.6, *Global Climate Change*, for additional details regarding this regulation.

Low Carbon Fuel Standard

The Low Carbon Fuel Standard (LCFS), established in 2007 through Executive Order S-1-07 and administered by CARB, requires producers of petroleum-based fuels to reduce the carbon intensity of their products that started with a 0.25 percent reduction in 2011, and culminated in a 10 percent total reduction in 2020. In September 2018, CARB extended the LCFS program to 2030, making significant changes to the design and implementation of the program, including a doubling of the carbon intensity reduction to 20 percent by 2030.

Petroleum importers, refiners, and wholesalers can either develop their own low-carbon fuel products, or buy LCFS credits from other companies that develop and sell low-carbon alternative fuels, such as biofuels, electricity, natural gas, and hydrogen.

Executive Order B-16-12—2025 Goal for Zero Emission Vehicles

In March 2012, Governor Brown issued an executive order establishing a goal of 1.5 million ZEVs on California roads by 2025. In addition to the ZEV goal, Executive Order (EO) B-16-12 stipulated that by 2015, all major cities in California would have adequate infrastructure and be "zero-emission vehicle ready"; that by 2020, the state would have established adequate infrastructure to support 1 million ZEVs; and that by 2050, virtually all personal transportation in the state would be based on ZEVs, and GHG emissions from the transportation sector would be reduced by 80 percent below 1990 levels.

California Air Resources Board Advanced Clean Car Program

The Advanced Clean Cars emissions control program was approved by CARB in 2012 and is closely associated with the Pavley regulations. The program requires a greater number of ZEV models for years 2015 through 2025 to control smog, soot, and GHG emissions. This program includes the Low-Emissions Vehicle (LEV) regulations to reduce emissions of criteria pollutants and GHGs from light- and medium-duty vehicles; and the ZEV regulations to require manufacturers to produce an increasing number of pure ZEVs (meaning battery and fuel cell electric vehicles) with the provision to produce plug-in hybrid electric vehicles (PHEVs) between 2018 and 2025.

California Air Resources Board Mobile Source Strategy

The Mobile Source Strategy (2016) includes an expansion of the Advanced Clean Cars program (which further increases the stringency of GHG emissions for all light-duty vehicles, and 4.2 million zero-emission and plug-in hybrid light-duty vehicles by 2030). It also calls for more stringent GHG requirements for light-duty vehicles beyond 2025, as well as reduction of GHG emissions from medium-duty and heavy-duty vehicles and increased deployment of zero-emission trucks primarily for Class 3–7 "last-mile" delivery trucks in California. Statewide, the Mobile Source Strategy would result in a 45 percent reduction in GHG emissions and a 50 percent reduction in the consumption of petroleum-based fuels. CARB's Mobile Source Strategy includes measures to reduce total light-duty vehicle miles traveled (VMT) by 15 percent compared to business as usual in 2050.

California Air Resources Board Advanced Clean Trucks Rule

The Advanced Clean Trucks regulation was approved on June 25, 2020, and has two main components: a manufacturers' ZEV sales requirement and a one-time reporting requirement for large entities and fleets. Manufacturers that certify Class 2b-8 chassis or complete vehicles with combustion engines are required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales need to be 55 percent of Class 2b–3 truck sales, 75 percent of Class 4–8 straight truck sales, and 40 percent of truck tractor sales.

Executive Order B-48-18

On January 26, 2018, Governor Brown issued an executive order establishing a goal of 5 million ZEVs on California roads by 2030, and spurring the installation and construction of 250,000 plug-in electric vehicle chargers, including 10,000 direct current fast chargers, and 200 hydrogen refueling stations by 2025.

Local

Sacramento 2035 General Plan

The City's Climate Action Plan (CAP), originally adopted in 2012, has been integrated into the 2035 General Plan. The General Plan's CAP policies outline strategies that can contribute to the reduction of GHG emissions as a result of reduced energy generation and consumption, and identify how to adapt to expected climate change impacts.[28] The following goal and policies from the Sacramento 2035 General Plan's Utilities Element related to energy are relevant to the proposed project, including the proposed CNU Medical Center.

> **Goal U 6.1: Adequate Level of Service.** Provide the energy needs of the city and decrease dependence on nonrenewable energy sources through energy conservation, efficiency, and renewable resource strategies.
>
> > ***Policy U 6.1.1*: Electricity and Natural Gas Services.** The City shall continue to work closely with local utility providers to ensure that adequate electricity and natural gas services are available for existing and newly developing areas.
> >
> > ***Policy U 6.1.5*: Energy Consumption per Capita**. The City shall encourage residents and businesses to consume 25 percent less energy by 2030 compared to the baseline year of 2005.
> >
> > ***Policy U 6.1.6*: Renewable Energy.** The City shall encourage the installation and construction of renewable energy systems and facilities such as wind, solar, hydropower, geothermal, and biomass facilities.
> >
> > ***Policy U 6.1.15*: Energy Efficiency Appliances.** The City shall encourage builders to supply Energy STAR appliances and HVAC [heating, ventilation, and air conditioning] systems in all new residential developments, and shall encourage builders to install high-efficiency boilers where applicable, in all new non-residential developments.

City of Sacramento Climate Action Plan

The City of Sacramento CAP identifies how the City and the broader community can reduce GHG emissions, and includes specific actions the City can take to adapt to the effects of climate change. The 2035 General Plan incorporated the City's CAP strategies, measures, and actions that reduce GHG emissions into appropriate elements of the General Plan. Appendix B of the General Plan is entitled "Climate Action Plan Policies and Programs." Most of the listed items are "supporting," which in this context means that no specific quantitative GHG emissions reduction target was developed, but that implementing this policy or program would *support* the City's overall efforts to reduce local sources of GHG emissions.

Seven overarching strategies are provided in the plan, including Energy Efficiency and Renewable Energy. Specific measures to achieve the climate action objectives include responding to energy demands and variable supplies, promoting increased energy efficiency in existing and new homes and buildings, generating renewable energy, and motivating individuals and

[28] City of Sacramento. 2015. *2012 Climate Action Plan.*

businesses to make choices that conserve energy. These measures will significantly reduce energy demand. The City's CAP contains the following goals:

- Reduce community-wide GHG emissions by 15 percent by 2020.
- Reduce community-wide GHG emissions 38 percent below 2005 levels by 2030, and 83 percent below 1990 levels by 2050.

Although the City has identified these long-term goals, the existing CAP does not identify specific measures to achieve the 2030 and 2050 goals.

The City is updating the Sacramento CAP in tandem with the 2040 General Plan Update process. As part of the Sacramento 2040 process, the CAP will be revived as a stand-alone document that provides an overarching framework for community-wide GHG emissions reduction and establishes Sacramento as leader on climate action.

The Mayors' Commission on Climate Change

In June 2020, the Mayors' Commission on Climate Change published the *Achieving Carbon Zero in Sacramento and West Sacramento by 2045* final report.[29] This report, initiated by Sacramento Mayor Darrell Steinberg and West Sacramento Mayor Christopher Cabaldon, includes recommendations to achieve carbon zero in Sacramento and West Sacramento by the year 2045. The commission's recommendations define a set of strategies to achieve the cities' carbon-zero vision, including a set of equity strategies, foundational principles, and actions to reduce emissions in the built environment, mobility, and community health and resilience sectors. The report identifies electrification of new buildings as a key strategy and advises that the City of Sacramento mandate all-electric construction to eliminate fossil fuel use in new buildings under four stories by 2023 and all new buildings by 2026, with caveats for cost effectiveness and technical feasibility. Following this recommendation, the Sacramento City Council adopted the Electric Vehicle Charging Infrastructure Ordinance on April 20, 2021, and the New Building Electrification Ordinance on June 1, 2021.[30] Both ordinances are reach codes, which are local building energy codes that "reach" beyond the state's minimum requirements for energy use in building design and construction.

The New Building Electrification Ordinance makes changes to Title 15 (Buildings and Construction Code) of the Sacramento City Code to require all-electric new construction for new buildings that are one to three stories when building permits are filed on or after January 1, 2023, and for buildings that are four stories or more when building permits are filed after on or after January 1, 2026. With a few exceptions, new buildings would not include natural gas or propane plumbing and would use only electricity as the sole source of energy. The New Building

[29] Mayors' Commission on Climate Change. 2020. *Achieving Carbon Zero in Sacramento and West Sacramento by 2045.* Final Report. Prepared by Local Government Commission. June 2020. Available: https://www.lgc.org/wordpress/wp-content/uploads/2020/06/Mayors-Commission-on-Climate-Change-Final-Report.pdf.

[30] Sacramento City Council. 2021. Ordinance No. 2021-0022—An Ordinance Adding to and Amending Various Provisions of Title 15 of the Sacramento City Code and Adopting Local Amendments to the California Building Standards Code, Relating to Green Building Standards Including Electrification, June 1, 2021. Available: http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/Major-Projects/Electrification-of-New-Construction/Adopted-New-Building-Electrification-Ordinance-6-1-21.pdf?la=en. Accessed August 27, 2021.

Electrification Ordinance includes limited exemptions for cooking equipment in commercial food establishments, for process loads in manufacturing and industrial facilities, and for water heating systems in regulated affordable housing (when virtual net energy metering is not available).

4.5.3 Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, impacts related to energy may be considered significant if implementation of the proposed project would:

- Result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Methodology and Assumptions

CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy consistent with Public Resources Code Section 21100(b)(3), CEQA Guidelines Section 15126.2(b), and CEQA Guidelines Appendices F and G. This analysis provides estimates of construction-related and operational energy use for the proposed Innovation Park PUD as a whole and the CNU Medical Center specifically. The analysis then uses this information to evaluate whether this energy use would be considered wasteful, inefficient, or unnecessary, taking into account available energy supplies; the project's energy efficiency features; and compliance with applicable standards and policies aimed to reduce energy consumption, including the City's 2035 General Plan policies, and the state's Title 24 Energy Efficiency Standards.

Construction Energy Estimates

Development allowed under the proposed project would occur over a period of 16 years, with full buildout of the Innovation Park PUD area, including the CNU Medical Center site, expected to occur by 2038. Construction of the CNU Medical Center is expected to begin in 2022 and last for 10 years. This energy analysis quantifies diesel and gasoline fuel volumes that would be required for construction under the proposed project, including the CNU Medical Center. Construction is assumed to occur five days per week, with many pieces of equipment conducting various construction activities at the site. Initial activities would include demolition of the existing Sleep Train Arena building, the former Sacramento Kings practice facility, the parking area, and the foundation for the partially constructed baseball field and stadium north of the arena building, followed by grading, site preparation, site utility upgrades, and building construction.

Energy use requirements in the form of diesel fuel consumed by on-site off-road construction equipment have been estimated based on the GHG emissions estimates from the CalEEMod modeling conducted for the air quality and GHG analysis. GHG emissions from CalEEMod were used in conjunction with The Climate Registry's 2021 default factors for calculating CO_2

emissions from diesel fuel.[31] The analysis assumes that all off-road construction equipment would be fueled by diesel. Construction activities for development of the proposed project are assumed to occur in four phases over a 16-year period, with buildout by 2038.

For on-road construction vehicles, the analysis assumes that light-duty automobiles and trucks used by commuting workers would be fueled by gasoline, and that on-road construction vehicles, such as vendor vehicles and trucks hauling demolition debris, soil, and other materials, would use diesel fuel. This analysis assumes that no electric on-road vehicles would be used during project construction. The quantities of fuels required by on-road vehicles during construction have been calculated based on the GHG emissions associated with commuting workers and vendor and haul trips and The Climate Registry's 2021 default factors for calculating CO_2 emissions from gasoline and diesel fuels.[32] GHG emissions associated with commuting workers and vendor and haul trips were estimated using CalEEMod defaults for estimated trip counts and for worker, vendor, and haul trip lengths (detailed in the Air Quality appendix, Appendix C).

In addition to fuels used by equipment and vehicles, construction activities would use water for dust suppression and management, which in turn would require electricity to supply, treat, and transport the water to the project area. However, because data on construction water use were not available, this electricity use is not accounted for in the analysis presented below.

Operational Energy Estimates

Building Use Energy

Natural gas and electricity would be the primary energy sources for operation of the buildings developed under the proposed project, including the proposed CNU Medical Center.

Estimates of operational electricity and natural gas usage by the CNU Medical Center were based on estimates from the analysis for the similarly sized medical center in the Draft EIR previously prepared for the CNU Medical Center Project in August 2020.[33]

For the Innovation Park PUD as a whole, estimates of natural gas and electricity use for operations were derived from CalEEMod outputs that are based on default energy use rates compliant with the 2019 Title 24 Building Energy Efficiency Standards. As discussed above, the Title 24 Building Efficiency Standards are updated once every three years; the design and construction of future buildings developed as part of the proposed Innovation Park PUD must meet updated standards, which would provide additional energy conservation.

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31 The Climate Registry. 2021. 2021 Default Emission Factors, Table 2.1—U.S. Default Factors for Calculating CO_2 Emissions from Combustion of Transport Fuels. May 2021. Available: https://www.theclimateregistry.org/wp-content/uploads/2021/05/2021-Default-Emission-Factor-Document.pdf?mc_cid=4b45d12237&mc_eid=5f138d1baa.

32 The Climate Registry. 2021. 2021 Default Emission Factors, Table 2.1—U.S. Default Factors for Calculating CO_2 Emissions from Combustion of Transport Fuels. May 2021. Available: https://www.theclimateregistry.org/wp-content/uploads/2021/05/2021-Default-Emission-Factor-Document.pdf?mc_cid=4b45d12237&mc_eid=5f138d1baa.

33 Ascent Environmental, Inc. 2020. *California Northstate University Medical Center Project Draft Environmental Impact Report.* August 2020.

In addition, future buildings in the project area would be built to achieve specific Leadership in Energy and Environmental Design (LEED) standards, which could include a variety of energy conservation measures including improved lighting, cooling, and water heating efficiencies. However, at this time, any energy reductions associated with these efficiencies are conservatively excluded from the energy use estimates for development allowed under the proposed Innovation Park PUD.

The proposed CNU Medical Center would include a Central Plant that would supply power and heat to the entire medical center campus. Four diesel-powered emergency generators are proposed as part of the Central Plant. These generators would be operated regularly as part of testing and maintenance. Diesel use from these activities has been quantified using GHG emissions estimated from the generators and The Climate Registry's 2021 default factors for calculating CO_2 emissions from diesel fuel. Development proposed under the Innovation Park PUD may also include the use of diesel generators. However, because specific details are not currently available, diesel use by any generators associated with the PUD is not quantified.

Energy use is also associated with water consumption in the form of electricity, which would be required to supply, treat, and distribute potable water and to treat the wastewater generated by development allowed under the proposed project, including the proposed CNU Medical Center. Project-related water consumption—both indoor and outdoor—was derived from the CalEEMod output and applied to the electricity usage required to supply, treat, and distribute this water, which was based on CalEEMod default factors for Sacramento County. For additional information regarding estimates of electricity and natural gas usage, see Appendix E of this Draft EIR.

Mobile Sources

Mobile-source fuel usage associated with operation of the proposed project, including the proposed CNU Medical Center, was estimated based on VMT data provided by Kimley Horn (Appendix H). VMT includes trips generated by project-related residents, employees, and visitors. Diesel and gasoline fuel usage was estimated using average miles per gallon (mpg) rates for 2038 (the first year of project operations) derived from EMFAC2021 for Sacramento County. Electricity demand for mobile sources was estimated based on VMT from EMFAC2021 and estimated electric-vehicle fuel economy (in kilowatt-hours [kWh] per mile), assuming 34 kWh per 100 miles.[34]

For emergency operations at the heliport proposed as part of the CNU Medical Center, fuel use was estimated using the Federal Aviation Administration's (FAA's) Aviation Environmental Design Tool (AEDT), Version 3d. AEDT is a modeling tool that calculates noise, fuel burn, and emissions associated with aviation operations and is the FAA's approved model for calculating environmental impacts. The AEDT modeling parameters and assumptions are detailed in Appendix F.

[34] U.S. Environmental Protection Agency. 2021. Green Power Equivalency Calculator—Calculations and References. Available: https://www.epa.gov/greenpower/green-power-equivalency-calculator-calculations-and-references. Accessed August 30, 2021.

Indirect Energy Use

In addition to direct construction-related and operational energy consumption, the proposed project would require indirect energy use (i.e., the use of electricity imported through the SMUD electrical grid) to generate electricity, refine fuels, and make the materials and components used in construction, including the energy used for extraction of raw materials, manufacturing, and transportation.

This analysis does not address the energy intensiveness of electricity generation, fuel refining, and materials, also referred to as the *energy life cycle*, because the California Natural Resources Agency (CNRA) has indicated that life-cycle analyses are not required under CEQA.[35] The CNRA has explained that, in the context of GHG emissions:

(1) There exists no standard regulatory definition for "life cycle."

(2) Even if a standard definition for life cycle existed, the term might be interpreted to refer to emissions beyond those that could be considered "indirect effects" as defined by the CEQA Guidelines, and therefore, beyond what an EIR is required to estimate and mitigate.

This reasoning was reaffirmed in Section 15126.2(b) of the November 2018 CEQA Guidelines, which cautions that the analysis of energy impacts is subject to the rule of reason, and must focus on energy demand caused by the project, signaling that a full "life-cycle" analysis that would account for energy used in building materials and consumer projects will generally not be required.[36]

Impacts and Mitigation Measures

Impact 4.5-1: Construction activities for the proposed project would have the potential to result in significant environmental impacts due to wasteful, inefficient, and/ or unnecessary use of energy.

Innovation Park PUD

Construction activities under the proposed project would require the use of fuels (primarily gasoline and diesel) by construction equipment and vehicles that would perform a variety of activities, including excavation, hauling, paving, and general vehicle travel. In addition, minimal amounts of energy in the form of electricity may be consumed by some pieces of construction equipment, such as welding machines, power tools, lighting, and other tools and equipment. However, this analysis assumes that diesel and gasoline would be the two primary fuels used for construction.

Table 4.5-1 presents the estimated total and annual-average construction energy consumption, by energy source, for the proposed Innovation Park PUD, excluding the CNU Medical Center. It should be noted that the total energy consumption would occur incrementally during the project's

[35] California Natural Resources Agency. 2009. *Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97.* December 2009. Pages 71 and 72. Available: http://resources.ca.gov/ceqa/docs/Final_Statement_of_Reasons.pdf. Accessed November 20, 2019.

[36] California Natural Resources Agency. 2018. *Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines.* November 2018. Page 41. Available: http://resources.ca.gov/ceqa/docs/2018_CEQA_Final_Statement_of%20Reasons_111218.pdf. Accessed November 20, 2019.

various construction phases over the development period of 16 years, rather than all at once. Energy usage would fluctuate depending on the type of development proposed and the construction activities underway during any particular time period. Energy use would be higher during the initial phases of construction for a development involving demolition of existing structures and initial site clearance and earthmoving/grading: The largest and most powerful equipment would be required to demolish existing structures and to excavate, lift, and transport large volumes of soil and demolition debris (such as concrete slabs and asphalt) from the site. Gasoline and diesel fuel would be the primary energy sources for vehicles driven by construction crews and to power the large haul trucks used to deliver and retrieve construction equipment, materials, and debris.

TABLE 4.5-1
CONSTRUCTION ENERGY USE ASSOCIATED WITH THE PROPOSED INNOVATION PARK PLANNED UNIT DEVELOPMENT

Energy Use Type	Unit of Measure	Construction Usage
Diesel		
On-road vehicles	gallons	787,656
Off-road equipment	gallons	588,091
Total Diesel Use	gallons	1,375,747
Annual Average Diesel Use[1]	**gallons/year**	**85,984**
Gasoline		
On-road vehicles	gallons	696,487
Total Gasoline Use	gallons	696,487
Annual Average Gasoline Use[1]	**gallons/year**	**43,530**

NOTE:
[1] Annual averages are estimated by dividing the total energy use by the expected 16-year duration of construction.

SOURCE: Data compiled by Environmental Science Associates in 2021—energy consumption calculations for the proposed Innovation Park Planned Unit Development.

Over the entire construction period for the proposed Innovation Park PUD, construction-related off-road equipment and on-road vehicles would consume approximately 1,375,747 gallons of diesel fuel and on-road worker vehicles would consume approximately 696,487 gallons of gasoline (Table 4.5-1). These total-use amounts are equivalent to averages of approximately 85,984 gallons of diesel fuel per year and 43,530 gallons of gasoline fuel per year over the 16-year construction period. These annual-average diesel and gasoline use amounts are equivalent to approximately 0.1 percent of the diesel and less than 0.01 percent of the gasoline sold in Sacramento County.

CNU Medical Center

Similar to the Innovation Park PUD as a whole, construction of the CNU Medical Center would require the use of fuels (primarily gasoline and diesel) for the operation of construction equipment and vehicles. **Table 4.5-2** presents the total estimated construction energy consumption as well as the energy consumption by phase for just the proposed CNU Medical

Center. The table also shows annual average energy use over the 10 years of medical center construction, although the amount of energy consumed during any particular year would depend on the level of development proposed in that specific year.

TABLE 4.5-2
CONSTRUCTION ENERGY USE ASSOCIATED WITH THE PROPOSED CALIFORNIA NORTHSTATE UNIVERSITY MEDICAL CENTER

Construction Phase	Construction Usage	
	Diesel	Gasoline
Phase 1A	317,210	109,421
Phase 1B	139,002	47,431
Phase 2A	71,690	11,722
Phase 2B	53,190	7,167
Phase 2C	32,265	10,416
Phase 2D	6,858	235
Phase 2E	54,323	6,426
Phase 2F	57,556	8,497
Phase 3A	56,742	8,502
Phase 3B	54,815	6,824
Phase 3C	62,061	18,254
Phase 3D	27,790	1,263
Phase 3E	54,938	7,062
Phase 3F	65,511	8,292
Total Energy Use	1,053,951	251,511
Annual Average Use[1]	**105,395**	**25,151**

NOTE:
[1] Annual averages are estimated by dividing the total energy use by the expected 10-year duration of construction.

SOURCE: Data compiled by Environmental Science Associates in 2021—energy consumption calculations for the proposed California Northstate University Medical Center.

Over the entire construction period for the proposed CNU Medical Center, construction-related off-road equipment and on-road vehicles would consume approximately 1,053,951 gallons of diesel fuel and on-road worker vehicles would consume approximately 251,511 gallons of gasoline (Table 4.5-2). These total-use amounts are equivalent to annualized averages of 105,395 gallons of diesel fuel per year and 25,151 gallons of gasoline fuel per year over the 10-year construction period. These annual-average diesel and gasoline use amounts are equivalent to approximately 0.1 percent of the diesel and less than 0.01 percent of the gasoline sold in Sacramento County.

Impact Conclusion Summary

Overall, the use of diesel fuel and gasoline during construction under the proposed project, including the proposed CNU Medical Center, would not be substantial relative to the total sales of transportation fuels in Sacramento County.

Transportation fuels (gasoline and diesel) are produced from crude oil, which can be domestic or imported from various regions around the world. Based on current proven reserves, crude oil production would be sufficient to meet more than 50 years of worldwide consumption.[37] All project construction equipment and vehicles would be subject to vehicle and equipment fuel efficiency standards that are set at the federal and state levels. Vehicles used for construction would comply with CAFE fuel economy standards, which would result in more efficient use of transportation fuels (lower consumption). Vehicles used for project-related trips would also comply with AB 1493 and the Low Carbon Fuel Standard, which are designed to reduce vehicular GHG emissions, but would also result in additional fuel savings.

Construction of the proposed project would use fuel-efficient equipment consistent with federal and state regulations, such as fuel efficiency regulations in CARB's Pavley Phase II standards; the anti-idling regulation in 13 CCR Section 2485; and fuel requirements for stationary equipment in 17 CCR Section 93115 (concerning the Airborne Toxic Control Measures). In accordance with 13 CCR Sections 2485 and 2449, idling by commercial vehicles over 10,000 pounds and off-road equipment over 25 horsepower would be limited to a maximum of five minutes. The intent of these regulations is to reduce construction emissions; however, compliance with the anti-idling and emission reduction regulations discussed above would also result in fuel savings from the more efficient use of equipment.

For the reasons described above, construction activities for the proposed project, including the proposed CNU Medical Center, would not result in wasteful, inefficient, or unnecessary consumption of fuel or energy. The impact would be **less than significant**.

Mitigation Measure

None required.

Impact 4.5-2: Operational activities for the proposed project would have the potential to result in significant environmental impacts due to wasteful, inefficient, and/ or unnecessary use of energy.

Innovation Park PUD and CNU Medical Center

Operation of development under the proposed project, including the proposed CNU Medical Center, would require long-term consumption of energy primarily in the form of electricity, natural gas, diesel, and gasoline. Electricity would be used as the primary power source for the proposed buildings, including to operate HVAC systems, lights, and other equipment. In addition, water used in buildings in the project area would require the consumption of electricity to supply, treat, and distribute potable water to the buildings and to convey and treat wastewater generated at the buildings. The use of natural gas for the buildings would be associated primarily with space and water heating. The Central Plant for the proposed CNU Medical Center would include four

[37] BP Global. 2021. Oil Reserves. Available: https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy/oil.html. Accessed February 2021.

emergency generators, whose diesel fuel usage has been quantified. Diesel fuel may also be used for stationary sources such as any emergency generators installed as part of the other Innovation Park PUD development. However, the amount of diesel fuel cannot be quantified at this point because of the lack of adequate data on sources the proposed Innovation Park PUD may include.

The use of fuels (diesel, gasoline, and natural gas) by mobile sources during operation of the proposed project, including the CNU Medical Center, has been estimated based on VMT and fleet-average fuel consumption[38] from the EMFAC2021 model for Sacramento County for the project buildout year, 2038. Electricity demand for electric vehicles is based on VMT from EMFAC2021 and estimated electric vehicle energy economy (in kWh per mile), assuming 34 kWh per 100 miles.[39]

The use of Jet A fuel[40] in helicopters that would provide emergency service to the proposed CNU Medical Center was derived from the AEDT modeling conducted for the project's air quality and noise analyses. A single AEDT helicopter type was used to simulate the helicopters in use at the heliport, and two different scenarios were assessed: normal and busy. Under the normal scenario, there would be four arrivals and four departures per month. Under the busy scenario, there would be six arrivals and six departures per month. Fuel estimates were derived for the busy scenario to provide a conservative estimate.

Table 4.5-3 summarizes the annual energy use requirements estimated for full-buildout operations under the proposed project, including the proposed CNU Medical Center, by energy use type. As specific developments proposed under the Innovation Park PUD are constructed, they would become operational. The fully built out CNU Medical Center would be operational by 2032 following a 10-year construction period, with the hospital building, central plant, and some other buildings operational sooner. However, Table 4.5-3 provides estimates of total operational energy use for the year 2038, when all development proposed under the Innovation Park PUD would be complete in its entirety.

The project area is currently supplied with electricity and natural gas by SMUD and PG&E, respectively. Both utility companies have established contracts and commitments to ensure that there is adequate electricity generation and natural gas capacity to meet current and future energy loads. The project area was planned for urban development in the North Natomas Community Plan of the Sacramento 2035 General Plan. Development of land uses allowed under the proposed Innovation Park PUD would generate demand for natural gas and electricity services consistent with assumptions in the General Plan.

38 In gallons per mile for diesel and gasoline and diesel gallon equivalents for natural gas.

39 U.S. Environmental Protection Agency. 2021. Green Power Equivalency Calculator—Calculations and References. Available: https://www.epa.gov/greenpower/green-power-equivalency-calculator-calculations-and-references. Accessed August 30, 2021.

40 Jet fuel is a type of aviation fuel designed for use in aircraft powered by gas turbine engines. The most commonly used fuels for commercial aviation are Jet A and Jet A-1, which are produced to a standardized international specification.

TABLE 4.5-3
OPERATIONAL (ANNUAL) ENERGY USE AT PROJECT BUILDOUT

Energy Use Type	Units	Operational Energy Use at Buildout
Electricity		
Buildings	MWh/year	93,583
Water Consumption	MWh/year	35,687
Mobile Sources[1]	MWh/year	2,993
Total Electricity Use	**MWh/year**	**132,263**
Natural Gas		
Buildings	MMBtu/year	242,379
Mobile Sources	MMBtu/year	3,762
Total Natural Gas Use	**MMBtu/year**	**246,141**
Diesel		
Mobile Sources	Gallons/year	510,547
CNU Medical Center Emergency Generators	Gallons/year	89,376
Total Diesel Use	**Gallons/year**	**599,923**
Gasoline		
Mobile Sources	Gallons/year	2,773,472
Total Gasoline Use	**Gallons/year**	**2,773,472**
Jet A Fuel		
Helicopter Operations	Gallons/year	3,045
Total Jet A Fuel Use	**Gallons/year**	**3,045**

NOTES: CNU Medical Center = California Northstate University Medical Center; MMBtu = million British thermal units; MWh = megawatt-hours

1 The fuel economy is consistent with the current range of fuel efficiencies of electric cars from U.S. Department of Energy. Available: https://www.fueleconomy.gov/feg/PowerSearch.do?action=noform&path=1&year1=1984&year2=2019&vtype=Electric.

SOURCE: Data compiled by Environmental Science Associates in 2021—operational energy consumption calculations for the proposed Innovation Park PUD and CNU Medical Center.

Electricity

To put the project's operational electricity requirements in context, in 2019 a total of 279,402 GWh of electricity was generated for California, of which consumers in Sacramento County used 10,828 GWh.[41] The CEC estimates that statewide energy demand will increase to 320,375 GWh in 2025, based on a moderate average annual energy demand growth rate of 1.32 percent.[42] As shown in Table 4.5-3, the anticipated long-term, operational electricity usage requirements of the proposed project, including the proposed CNU Medical Center, would be 132,263 MWh per year by the buildout year, 2038. This represents approximately 0.05 percent of the total 2019 statewide electricity usage and 1.2 percent of Sacramento County's 2019 electricity usage.

41 California Energy Commission. 2019 Electricity Consumption by County. Available: https://ecdms.energy.ca.gov/elecbycounty.aspx. Accessed August 26, 2021.

42 California Energy Commission. 2018. California Energy Demand 2018–2030 Revised Forecast. Available: https://efiling.energy.ca.gov/URLRedirectPage.aspx?TN=TN222287_20180120T141708_The_California_Energy_Demand_20182030_Revised_Forecast.pdf. Docketed January 2018. Accessed March 25, 2019.

Based on a comparison to statewide and Sacramento County annual energy demand and the projected demand growth rate, the project-related increase in electricity consumption is not expected to adversely affect local and regional energy supplies, or to require additional generation capacity beyond the statewide planned increase to accommodate projected energy demand growth.

In addition, estimates of the project's operational electricity demand conservatively exclude the benefits of any additional sustainability features that future development may include, such as buildings built to LEED design standards and installation of PV panels on homes and businesses. The estimates also conservatively exclude efficiencies from future revisions to Title 24 energy standards, which would further reduce electricity demand. As described in Chapter 2, Project Description, the CNU Medical Center would install solar photovoltaics on CNU-affiliated building roofs. The medical center's remaining electrical demand is planned to be met with 100 percent renewable energy provided through SMUD's Greenergy program.

All development proposed would be subject to the City's recent New Building Electrification Ordinance,[43] which would increase electricity use with the elimination of natural gas in buildings. However, this increase is expected to be offset by the increased use of rooftop PV installations and increased energy efficiencies required by the Title 24 energy code as part of the City's progress towards its goal of zero-net-energy buildings by 2030.

Natural Gas

Annual operational consumption of natural gas by development under the proposed project, including the proposed CNU Medical Center, by the buildout year of 2038 is estimated to be 246,141 MMBtu (see Table 4.5-3). In comparison, statewide natural gas consumption in 2019 was 1,315,820,749 MMBtu and 2019 natural gas consumption in Sacramento County was 31,178,994 MMBtu.[44] The increase in natural gas consumption associated with the proposed project would account for 0.02 percent of 2019 statewide annual consumption and approximately 0.8 percent of 2019 countywide consumption.

California's natural gas demand is projected to decrease at an annual rate of 1.1 percent until the year 2026 as a result of the continued implementation of renewable generation projects and the penetration of energy efficient products in the state, before increasing again because of population growth and associated demand.[45] Estimated natural gas consumption from development under the proposed project, including the CNU Medical Center, would not be substantial compared to countywide consumption, and it would not appear to cause adverse effects on local and regional energy supplies or require additional transmission capacity beyond the statewide planned increase in consumption.

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43 Sacramento City Council. 2021. Ordinance No. 2021-0022—An Ordinance Adding to and Amending Various Provisions of Title 15 of the Sacramento City Code and Adopting Local Amendments to the California Building Standards Code, Relating to Green Building Standards Including Electrification. June 1, 2021. Available: http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/Major-Projects/Electrification-of-New-Construction/Adopted-New-Building-Electrification-Ordinance-6-1-21.pdf?la=en. Accessed August 27, 2021.

44 California Energy Commission. 2021. 2019 Gas Consumption by County. Available: http://ecdms.energy.ca.gov/gasbycounty.aspx. Accessed August 26, 2021.

45 California Energy Commission. 2015. *Draft Staff Report: 2015 Natural Gas Outlook*. Available: https://efiling.energy.ca.gov/GetDocument.aspx?tn=213911&DocumentContentId=21473.

Further, the estimates in Table 4.5-3 do not account for reductions in natural gas use resulting from implementation of the New Building Electrification Ordinance adopted by the Sacramento City Council in June 2021. As discussed previously, the ordinance requires buildings that are three stories or less, for which building permit applications are filed on or after January 1, 2023, to be all-electric, with no natural gas infrastructure. The ordinance would apply to buildings that are four stories or more for which building permit applications are filed on or after January 1, 2026. Based on the development timeline for the proposed Innovation Park PUD, this may result in a significant reduction in natural gas usage when compared to the estimates provided in Table 4.5-3.

Transportation Fuels

During project operation, consumption of diesel fuel in motor vehicle trips would be approximately 51,547 gallons per year and gasoline consumption would be approximately 2,773,472 gallons per year (Table 4.5-3). Testing and maintenance of the CNU Medical Center's four emergency generators would consume another 89,376 gallons of fuel per year. The total amounts of annual diesel and gasoline use are equivalent to approximately 0.7 percent and 0.5 percent, respectively, of the diesel fuel and gasoline sold in Sacramento County. Overall, the use of gasoline and diesel fuels during operation of the proposed project, including the proposed CNU Medical Center, would not be substantial relative to the total sales of fuels in Sacramento County.

It is also important to consider the types and mix of land uses developed in terms of the balance between jobs, housing, and amenities. Developing the proposed Innovation Park PUD with a mix of uses would help accommodate future residents and employees at a higher energy efficiency (i.e., less transportation energy usage per capita) than a project less central to amenities and dense populations.

In other words, given the proximity of the project area to amenities (e.g., jobs, shopping, entertainment), regional modeling by the Sacramento Area Council of Governments demonstrates that this infill project would reduce transportation fuel use compared to a project on the urban fringe with limited access to transit, fewer bicycle/pedestrian access corridors, reduced access to jobs and amenities, and lower development densities. The mix of uses under the proposed project would allow residents to access amenities such as retail, health care, restaurants, cultural events, and jobs using alternative modes such as walking and biking, which would reduce overall transportation-related energy consumption. Development under the proposed project also would result in shorter trip distances to amenities and places of employment, reducing transportation-related energy consumption. An increase in transportation fuel consumption would also be offset to a certain extent by continued improvements to vehicle fuel efficiency.

Impact Conclusion Summary

For the reasons described above, operation of the proposed project, including the proposed CNU Medical Center, is not expected to result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of fuel or energy. The impact would be **less than significant**.

Mitigation Measure

None required.

Impact 4.5-3: Construction and operation of the proposed project would have the potential to conflict with or obstruct adopted energy conservation plans or violate energy efficiency standards.

Innovation Park PUD and CNU Medical Center

Development under the proposed project, including the proposed CNU Medical Center, would comply with existing energy standards and plans, including state and local standards designed to minimize the use of fuel in construction vehicles, maximize energy efficiency in buildings, and encourage the use of renewable energy, as described further below.

Construction Vehicles and Equipment

As discussed previously, project construction would require the use of on-road trucks for deliveries of construction materials and hauling of soil and demolition debris, and the use of off-road equipment such as excavators, cranes, forklifts, and pavers. Construction activities would comply with state and local requirements designed to minimize idling and associated emissions, which would also minimize the use of fuel. Specifically, pursuant to 13 CCR Sections 2485 and 2449, idling of commercial vehicles over 10,000 pounds and off-road equipment over 25 horsepower would be limited to a maximum of five minutes.

Building Efficiency

The anticipated use of electricity and natural gas in buildings constructed under the proposed project is discussed in Impact 4.5-2, above. Construction of new buildings is subject to California's Title 24 standards, including the Building Energy Efficiency Code and CALGreen Code as discussed in Section 4.5.2, *Regulatory Setting*. California's Title 24 reduces energy use in residential and commercial buildings through progressive updates to both the Green Building Standards Code (Title 24, Part 11) and the Energy Efficiency Standards (Title 24, Part 6). Provisions added to Title 24 over the years include consideration and incorporation of new energy efficiency technologies and methods for building features such as space conditioning, water heating, and lighting, as well as construction waste diversion goals. Additionally, some standards focus on larger energy-saving concepts such as reducing loads at peak periods and seasons, improving the quality of energy-saving installations, and performing energy system inspections.

Past updates to the Title 24 standards have proven very effective in reducing building energy use; the 2013 update to the energy efficiency standards was estimated to reduce energy consumption in residential buildings by 25 percent and in commercial buildings by 30 percent, relative to the 2008 standards.[46] The 2019 Title 24 standards will further reduce energy use compared to the 2016 standards, with single-family residential savings of 79 percent for electricity and 9 percent for natural gas. For low-rise multi-family buildings, savings will be 79 percent for electricity and 5 percent

[46] California Energy Commission. 2012. Energy Commission Approves More Efficient Buildings for California's Future. Available: https://planning.lacity.org/eir/CrossroadsHwd/deir/files/references/C17.pdf. Accessed June 3, 2019.

for natural gas. The first-year savings associated with the 2019 standards for newly constructed nonresidential buildings will be 10.7 percent for electricity and 1 percent for natural gas.[47]

Proposed project construction is proposed to occur in phases between 2022 and 2038 for the Innovation Park PUD as a whole and between 2022 and 2032 for the CNU Medical Center. Thus, further energy use reductions beyond the current 2019 standards can be anticipated from future Title 24 code revision cycles, as building permits are issued at future dates corresponding to those code updates.

In addition, as spelled out in the California Energy Efficiency Strategic Plan, the state has developed a goal of zero net energy use in all new homes beyond 2020 and in commercial buildings by 2030.[48] The City of Sacramento aims to achieve this goal for all new construction by 2030. The zero-net-energy goal means that new buildings must use a combination of improved efficiency and distributed renewable energy generation to meet 100 percent of their annual energy needs. Implementation of the 2019 Title 24 standards takes the final step to achieve zero net energy for newly constructed residential buildings throughout California. Because all project development would be built to the 2019 or later standards, development allowed under the proposed project would be highly efficient in terms of energy use in residential and commercial structures.

Although the City's CAP does not identify citywide GHG reduction targets beyond the year 2020, development allowed under the proposed project would be consistent with policies that emphasize energy efficiency and increased use of renewable energy consistent with Title 24 standards.

Transportation

Fuel use is correlated with VMT. Many regulatory requirements reduce VMT, which results in reductions in mobile-source fuel use. For example, SB 743 requires projects to evaluate VMT relative to existing regional averages rather than evaluating traffic level of service (LOS) for CEQA significance, and allows streamlining for projects in areas well served by transit. Development under the proposed project, including the CNU Medical Center, would comply with or exceed all requirements for reducing VMT.

SB 375, the Sustainable Communities and Climate Protection Program, requires metropolitan planning organizations to develop sustainable communities strategies to reduce per capita VMT. The proposed project would focus on housing and job growth in an existing urbanized area near transit to fulfill one of the key aspects of the sustainable communities strategies.[49] The proposed project would also help accomplish the Governor's Zero Emission Vehicle Action Plan

47 California Energy Commission. 2018. 2019 Title 24 Impact Analysis, Update to the California Energy Efficiency Standards for Residential and Non-Residential Buildings. June 29, 2018. Available: https://www.energy.ca.gov/title24/2019standards/post_adoption/documents/2019_Impact_Analysis_Final_Report_2018-06-29.pdf. Accessed June 3, 2019.

48 California Energy Commission. 2016. 2016 Building Energy Efficiency Standards Frequently Asked Questions. Available: www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf.

49 California Air Resources Board. 2019. What are Sustainable Communities Strategies? Available: https://ww2.arb.ca.gov/our-workprogramssustainable-communities-program/what-are-sustainable-communities-strategies. Accessed April 17, 2019.

(Executive Order B-48-18) by promoting the use of electric vehicles through the installation of electric vehicle charging infrastructure, as required by the 2019 Title 24 standards enforced through the City's Electric Vehicle (EV) Charging Infrastructure Ordinance. The EV Charging Infrastructure Ordinance amends Title 15 of the Sacramento City Code (Buildings and Construction) to require higher levels of EV charging infrastructure in new construction starting in 2023 and also amends Title 17 of Sacramento City Code (the Planning and Development Code) to establish parking incentives for zero emission car-sharing and EV charging infrastructure beyond the requirements. The vehicles that travel to and from individual project sites within the project area would be registered at the California Department of Motor Vehicles consistent with the overall regional fleet. The California Department of Motor Vehicles requires vehicle owners to comply with vehicle efficiency standards to obtain registration.

Impact Conclusion Summary

For the reasons described above, development under the proposed project, including the proposed CNU Medical Center, would not conflict with applicable energy standards and plans, including the City's CAP, resulting in a **less-than-significant** impact. In addition, implementation of Mitigation Measures 4.6-1 and 4.6-2 would ensure that construction and operational activities associated with the proposed project would not conflict with applicable energy standards.

Mitigation Measure

None required.

Cumulative Impacts

Cumulative impacts related to the wasteful, inefficient, or unnecessary consumption of energy during construction and operation (Impacts 4.5-1 and 4.5-2) and the potential for the project to conflict with or obstruct adopted energy conservation plans or violate energy efficiency standards (Impact 4.5-3) would be the same as the project-specific context. Energy consumption effects related to individual projects are localized and would not combine with similar effects in other locations. However, continued growth in the Sacramento area and throughout SMUD's and PG&E's service areas could contribute to ongoing increases in demand for electricity and natural gas, which are discussed below.

Impact 4.5-4: The proposed project, in combination with other cumulative development, would have the potential to contribute to cumulative increases in demand for energy.

Other projects proposed in the vicinity of the project area, the city of Sacramento, and the service areas for SMUD and PG&E in general could cumulatively contribute to ongoing increases in demand for electricity and natural gas. These anticipated increases would be countered in part by ongoing increases in national, statewide, and local requirements and incentives to support construction or retrofit of buildings with increased energy efficiency.

For electricity, overall supply during most conditions is adequate. However, as demand continues to increase in SMUD's service area, temporary shortfalls could occur in SMUD's system (and

other portions of the statewide grid) during temporary periods of high peak demand. Peak demands occur in the project area during the summer's hot weather conditions when people run their air conditioners. In the future, electrification of buildings and increased use of electricity as a transportation fuel would add to SMUD's peak demand.

With an increasing number of hot-weather days and the move toward electrification of buildings, meeting demand during peak periods is a key planning consideration for the utility. SMUD is actively planning to offset growth in peak demands by encouraging and deploying energy efficiency and conservation measures within its service area. Through a combination of increases in efficiency and deployment of power management strategies, including power imports during peak periods, SMUD expects to maintain sufficient capacity to provide power to its service area, including development allowed under the proposed project, at least through 2050.[50] Therefore, the project's incremental contribution to the cumulative impact on electrical supply would not be cumulatively considerable.

With respect to natural gas, PG&E sources natural gas from a combination of producers and suppliers located in Canada and the U.S. Southwest. The utility maintains contracts with producers and suppliers over daily, monthly, and longer term agreements. PG&E also maintains gas storage facilities and a network of conveyance and distribution pipelines within its service area. PG&E maintains an active planning process to identify and deploy additional conservation measures to minimize future increases in demand, to secure a continued natural gas supply, and to maintain sufficient distribution system capacity within its service area. Existing and planned infrastructure is anticipated to be sufficient to maintain service to the proposed project, including the proposed CNU Medical Center, and to other cumulative scenario projects.[51] Therefore, the project's incremental contribution to the cumulative impact on natural gas supply would not be cumulatively considerable.

Additionally, conservation policies encouraged by the City, including those set forth in the City's 2035 General Plan (electricity and natural gas services, energy consumption per capita, renewable energy, and energy efficiency appliances), are expected to support increased energy conservation in new development, such as that which would occur under the proposed project. Although the proposed project could result in an overall increase in energy demand on suppliers, anticipated increases would be restrained by these requirements.

For these reasons, cumulative impacts on energy production and transmission facilities would not be significant, and the contribution of the proposed project, including the CNU Medical Center, would not be cumulatively considerable. As such, the cumulative impact would be **less than significant**.

50 Sacramento Metropolitan Utility District (SMUD), 2019. Resource Planning Report – IRP Filing Report for Submission to the California Energy Commission, April 2019.

51 Pacific Gas and Electric Company. 2021. Operating Data. Available: http://www.pge.com/pipeline/operations/cgt_pipeline_status.page#flows. Accessed September 2, 2021.

Mitigation Measure

None required.

4.6 Global Climate Change

This section describes the potential greenhouse gas (GHG) emissions and climate change impacts related to the construction and operation of proposed development in the Innovation Park PUD area, including the site of the proposed CNU Medical Center (together referred to in this section as the *project area*). It evaluates changes to GHG emissions and global climate change that could result from implementation of the proposed Innovation Park PUD, including the CNU Medical Center (together referred to herein as the *proposed project*).

Comment letters were submitted in response to the Notice of Preparation that included comments from agencies, groups, and individuals specific to GHG emissions and climate change.

The primary sources for this section include:

- Project-specific construction and operational features described in Chapter 2, *Project Description*;
- State of California regulatory guidance as it relates to GHG emissions that contribute to climate change;
- Sacramento Metropolitan Air Quality Management District (SMAQMD) CEQA Guidelines; and
- The City of Sacramento 2035 General Plan.[1]

4.6.1 Background

In the 2030 General Plan, adopted by the City Council on March 3, 2009, the City of Sacramento clearly indicated its intention to support future growth in the city that avoids urban sprawl. The General Plan sought to promote a community with multiple modes of transportation, neighborhoods that were livable, and a mixed-use environment supporting residential and commercial uses. The goals of the General Plan remained relatively unchanged in this regard in the 2035 General Plan, adopted on March 3, 2015.

The direction provided in the General Plan is consistent with the Statewide and worldwide efforts to combat climate change that have emerged in recent years. The measures supported by the General Plan reduce GHG emissions, the primary cause of climate change, from the two primary sources in the city: transportation and building energy.

In recent years the City of Sacramento has been engaged in a range of efforts to reduce GHG emissions:

- In 2010, the City adopted the Phase 1 Climate Action Plan for Internal operations (IO-CAP) to reduce GHG emissions from the City's municipal operations; the City completed updates to the program in 2016, identifying the City's attainment of a 24 percent reduction in municipal GHG emissions below 2005 levels, exceeding the adopted 2020 target for a 22 percent reduction.

[1] City of Sacramento. 2015. *Sacramento 2035 General Plan*. Adopted March 3, 2015.

- In 2012, the City adopted the Phase 2 Climate Action Plan for community-wide activities, committing to a 15 percent reduction below 2005 community-wide GHG emissions levels by 2020, and striving toward ongoing post-2020 reductions.
- In 2015, the City adopted the 2035 General Plan Update, which affirmed the City's GHG reduction targets, committing to achieve a 49 percent reduction below baseline 2005 levels by 2035, and an 83 percent reduction by 2050.
- In 2018, the Mayors' Commission on Climate Change was convened with the goal of seeking net zero GHG emissions by 2045.
- The City's 2040 General Plan Update was initiated in late 2018, and includes an update to the City's Climate Action Plan (CAP) that will include revised GHG reduction targets and strategies to achieve them, based on community outreach, technical analysis, and recommendations from the Mayors' Commission on Climate Change.

The City has acknowledged that GHG emissions are an inherently cumulative impact, and that it is not possible to identify any particular level of GHG emissions that would lead to any specific effect. The City, however, has committed to doing its part to respond to the unique threats to the world's populations, both human and other living organisms. These threats are described below, and a good faith attempt has been made to evaluate the effects of such emissions.

In addition to involving governmental efforts that have evolved in terms of strategies, the climate change discussion has also evolved in terms of the targets for GHG reductions. To some extent, this process has been affected by scientific reports detailing actual effects of climate change, as well as the actions of various governmental entities in establishing specific GHG reduction targets. In addition to discussing the practical effects of climate change related to GHG emissions, this section includes estimates of GHG emissions. These estimates provide three perspectives on such emissions: (1) an inventory of GHG emissions, (2) targets for reduction levels in terms of both emissions levels and carbon dioxide equivalent (CO_2e, defined below) levels in the Earth's atmosphere, and (3) estimates of the effect on the Earth's temperature of the success or failure to achieve particular targets.

With this perspective, the analysis moves to a discussion of whether the proposed project contributions to GHG emissions and climate change are cumulatively considerable in light of worldwide emissions. If the answer is yes, the City is required to identify mitigation measures to reduce the impact that could be feasibly implemented by the proposed project. Finally, the section reaches a conclusion regarding the cumulative significance of the proposed project GHG emissions.

4.6.2 Environmental Setting

Global warming and *climate change* are common terms used to describe the increase in the average temperature of the earth's near-surface air and oceans since the mid-20th century. Increasing GHG concentrations resulting from human activity such as fossil fuel combustion, deforestation, and other activities are a major factor in climate change.

GHGs in the atmosphere naturally trap heat by impeding the exit of solar radiation that has hit the Earth and is reflected back into space—a phenomenon sometimes referred to as the *greenhouse effect*. Some GHGs occur naturally and are necessary for keeping the Earth's surface inhabitable.

However, increases in the concentrations of these gases in the atmosphere during the last 100 years have trapped solar radiation and decreased the amount that is reflected back into space, intensifying the natural greenhouse effect and resulting in the increase of global average temperature.

Carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) are the principal GHGs. CO_2, CH_4, and N_2O occur naturally and are also generated through human activity. Emissions of CO_2 are largely byproducts of fossil fuel combustion (e.g., coal, natural gas), whereas CH_4 results from off-gassing,[2] natural gas leaks from pipelines and industrial processes, and incomplete combustion associated with agricultural practices, landfills, energy providers, and other industrial facilities. N_2O emissions are also largely attributable to agricultural practices and soil management. Other human-generated GHGs include fluorinated gases such as HFCs, PFCs, and SF_6, which have much higher heat-absorption potential than CO_2 and are byproducts of certain industrial processes.

CO_2 is the typical reference gas for climate change, as it is the GHG emitted in the highest volume. While some other GHGs have a higher potential for causing climate change, they are emitted in much lower levels and are not as significant a factor. In emissions inventories, GHG emissions are typically reported as metric tons of CO_2 equivalents (CO_2e). CO_2e are calculated as the product of the mass emitted of a given GHG and its specific global warming potential.

Potential Effects of Human Activity on GHG Emissions

Fossil fuel combustion, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO_2 emissions (and thus substantial increases in atmospheric concentrations of CO_2). By 1994, atmospheric CO_2 concentrations had increased by nearly 30 percent above pre-industrial concentrations.

There is international scientific consensus that human-caused increases in GHGs have contributed to and will continue to contribute to global warming. Potential global warming impacts in California may include a loss in Sierra Nevada snowpack, sea level rise, more extreme heat days per year, an increase in high ground-level ozone days, larger and more intense forest fires, and increased drought conditions. Secondary effects will likely include the displacement of thousands of coastal businesses and residences (as a result of sea level rise), impacts on agriculture, changes in disease vectors (e.g., mosquitos), and changes in habitat and biodiversity for various plants and animals. In California, it is expected that global warming will cause detrimental effects to some of the state's largest industries, including agriculture, winemaking, tourism, skiing, commercial and recreational fishing, forestry, and the adequacy of electrical power generation.[3] Furthermore, the *Climate Change Scoping Plan* states that "world-wide changes are causing sea levels to rise – about 8 inches of increase has been recorded at the Golden Gate Bridge over the past 100 years – threatening low coastal areas with inundation and serious damage from storms."

2 Off-gassing is defined as the release of chemicals under normal conditions of temperature and pressure.

3 California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target*, November 2017. Available: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf. Accessed August 2021.

Impacts of Climate Change

Ecosystem and Biodiversity Impacts

Climate change is expected to have effects on diverse types of ecosystems. As temperatures and levels of rainfall and snow change, seasonal shifts in vegetation will occur. As a result, some plant and animal species will face a threat of extinction. The IPCC states that "a large fraction of both terrestrial and freshwater species faces increased extinction risk under projected climate change during and beyond the 21st Century, especially as climate change interacts with other stressors, such as habitat modifications, over exploitation, and invasive species."[4] Wildfires, which are an important control mechanism in many ecosystems, are also becoming more severe and more frequent, making it difficult for native plant species to repeatedly re-germinate. Continued emission of GHGs will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive, and irreversible impacts for people and ecosystems.[5]

Human Health Impacts

Climate change will likely increase the risk of vector-borne infectious diseases such as malaria, dengue fever, yellow fever, and encephalitis, particularly those found in tropical areas and spread by insects. While these health effects would largely affect tropical areas in other parts of the world, effects are expected also to be felt in California. Warming of the atmosphere is expected to increase smog and particulate pollution, which could affect the health of individuals with heart and respiratory problems, such as asthma. Extreme heat events are also expected to occur with more frequency and could adversely affect the elderly, children, and the homeless. Finally, the water supply impacts and seasonal temperature variations expected as a result of climate change could affect the viability of existing agricultural operations, making the food supply more vulnerable.[6]

Greenhouse Gas Emissions Estimates

Global Emissions

Worldwide GHG emissions in 2020 were approximately 52.4 billion metric tons of CO_2e per year.[7] This includes both ongoing emissions from industrial and agricultural sources, but excludes emissions from land use changes.

U.S. Emissions

In 2019, the last emissions year reported at the federal level, the United States emitted about 6,558.3 million metric tons of CO_2e. Of the major economic sectors—residential, commercial, industrial, electric power, agricultural, and transportation—transportation accounts for the

4 Intergovernmental Panel on Climate Change. 2014. *Climate Change 2013: Impacts, Adaptation, and Vulnerability, Summary for Policymakers. Working Group II Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. pp. 14-15.

5 Intergovernmental Panel on Climate Change. 2014. *Climate Change 2014, Synthesis Report Summary for Policymakers, Fifth Assessment Report.*

6 U.S. Environmental Protection Agency. 2008. *Climate Change – Health and Environmental Effects.* Available: www.epa.gov/climatechange/effects/health.html#climate. Accessed June 19, 2021.

7 PBL Netherlands Environmental Assessment Agency. 2020. Trends in Global CO_2 and Total Greenhouse Gas Emissions, 2020 Report. December 2020. Available: https://www.pbl.nl/sites/default/files/downloads/pbl-2020-trends-in-global-co2-and_total-greenhouse-gas-emissions-2020-report_4331.pdf. Accessed August 2021.

highest fraction of GHG emissions (approximately 29 percent), followed by electric power (approximately 25 percent) and industry (approximately 23 percent). The remaining 23 percent of U.S. GHG emissions were contributed by, in order of magnitude, the agriculture, commercial, and residential sectors.[8]

State of California Emissions

California produced approximately 418.2 million metric tons of CO_2e in 2019. Combustion of fossil fuel in the transportation sector was the single largest source of California GHG emissions in 2019, accounting for 40 percent of total GHG emissions in the state. This sector was followed by the industrial sector (21 percent), the electric power sector (including both in-state and out-of-state sources) (14 percent), residential and commercial sectors (11 percent), agriculture sector (8 percent), and other high global warming potential and waste sectors (7 percent).[9]

Existing Conditions

City of Sacramento Emissions

The City of Sacramento produced approximately 3.42 million metric tons of CO_2e in 2016, the most recent community-wide emissions inventory year. The transportation sector represents the largest source of GHG emissions, accounting for 57 percent of the City's annual emissions. Electricity and natural gas used to operate, heat, and cool commercial, industrial, and residential buildings accounted for another 37 percent of annual CO_2e emissions. The other CO_2e emissions sectors included in the inventory (with percent contributions reported in parentheses) were generated waste (4 percent), waste-in-place (1 percent), wastewater treatment (1 percent), and water use (1 percent).[10]

Existing (Baseline) Conditions

The project area includes the Sleep Train Arena building and former Sacramento Kings practice facility, parking lots surrounding the arena structure, and partially and fully undeveloped areas to the north of the arena and parking areas. The arena and the associated structures are not currently being regularly used. Therefore, the site is not an existing material source of GHG emissions.

4.6.3 Regulatory Setting

In recent years federal, state, regional, and local governments have been active in studying and regulating GHG emissions. The actions that are considered particularly important in establishing targets for GHG emissions, and that have been used by the City of Sacramento in establishing

8 U.S. Environmental Protection Agency. 2019. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019; Executive Summary, Table ES-2.* April 2019. Available: https://www.epa.gov/sites/default/files/2021-04/documents/us-ghg-inventory-2021-chapter-executive-summary.pdf. Accessed August 2021.

9 California Air Resources Board. 2021. *California Greenhouse Gas Emissions for 2000-2019, Trends of Emissions and Other Indicators,* Figure 20a*.* Available: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf. Accessed August 2021.

10 City of Sacramento. 2020. *City of Sacramento Climate Action Plan Update, Appendix A – Community Inventory and Forecast Methodology*. March 2020. Available: https://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/Major-Projects/App-A---Community-Technical-Appendix-Final-3_16_20.pdf?la=en. Accessed August 2021.

thresholds of cumulative significance, are listed below. Additional details of pertinent regulations are presented in Appendix F.

State

Assembly Bill 32 and the Global Warming Solutions Act

In 2006, the California Legislature passed Assembly Bill (AB) 32 (California Health and Safety Code Section 38500 et seq.), also known as the Global Warming Solutions Act. AB 32 requires the California Air Resources Board (CARB) to design and implement feasible and cost-effective emissions limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). The legislature anticipated that AB 32 GHG reduction goals will be met, in part, through local government actions. CARB has identified a GHG reduction target of 15 percent from current levels for local governments (municipal and community-wide) and notes that successful implementation of the plan relies on local governments' land use planning and urban growth decisions because local governments have the primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. The AB 32 GHG reduction goal was met in 2016, four years prior to the 2020 goal.[11]

Executive Order B-30-15

In 2015, Governor Jerry Brown issued Executive Order B-30-15, establishing a GHG reduction target of 40 percent below 1990 levels by 2030. This goal was set to make it possible to reach the ultimate goal of AB 32 to reduce GHG emissions 80 percent under 1990 levels by 2050. Specifically, the executive order directed CARB to update the Scoping Plan to express this 2030 target in metric tons. On September 8, 2016, Governor Brown signed Senate Bill (SB) 32, which codified the 2030 reduction target called for in Executive Order B-30-15. CARB's 2017 Scoping Plan update addressed the 2030 target, as discussed below.

Senate Bill 32 and Assembly Bill 197

Signed into law on September 8, 2016, SB 32 (Amendments to California Global Warming Solutions Act of 2006: Emission Limit) amended Health and Safety Code (HSC) Division 25.5 and codifies the 2030 target in Executive Order B-30-15 (40 percent below 1990 levels by 2030). The 2030 target is intended to ensure that California remains on track to achieve the goal set forth by Executive Order B-30-15 to reduce statewide GHG emissions by 2050 to 80 percent below 1990 levels. SB 32 stated the intent of the legislature to continue to reduce GHGs for the protection of all areas of the state and especially the state's most disadvantaged communities, which are disproportionately affected by the deleterious effects of climate change on public health. The law amended HSC Division 25.5 and established a new climate pollution reduction target of 40 percent below 1990 levels by 2030, while AB 197 includes provisions to ensure that the benefits of state climate policies include disadvantaged communities.

[11] California Energy Commission. 2018. Press Release: "Climate pollutants fall below 1990 levels for first time." Available: https://ww2.arb.ca.gov/news/climate-pollutants-fall-below-1990-levels-first-time. Accessed November 21, 2019.

The California Climate Change Scoping Plan

2008 Climate Change Scoping Plan

Pursuant to AB 32, CARB adopted a *Climate Change Scoping Plan* in December 2008 (re-approved by CARB on August 24, 2011)[12] outlining measures to meet the 2020 GHG reduction goals. To meet these goals, California had to reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels. The initial Scoping Plan relied on the requirements of SB 375 to implement the carbon emissions reductions anticipated from land use decisions.

First Update to the Climate Change Scoping Plan

The Scoping Plan is required by AB 32 to be updated at least every five years. The First Update to the Climate Change Scoping Plan describes progress made to meet near-term emissions goals of AB 32, defines California's climate change priorities and activities for the next few years, and describes the issues facing the state as it establishes a framework for achieving air quality and climate goals beyond the year 2020.

2017 Scoping Plan Update

On December 14, 2017, CARB approved the final version of California's *2017 Climate Change Scoping Plan* (2017 Scoping Plan Update), which outlines the proposed framework of action for achieving the 2030 GHG target of 40 percent reduction in GHG emissions relative to 1990 levels.[13] The 2017 Scoping Plan Update identifies key sectors of the implementation strategy, which includes improvements in low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water. CARB determined that the target statewide 2030 emissions limit is 260 million metric tons of CO_2e ($MMTCO_2e$), and that further commitments will need to be made to achieve an additional reduction of 50 $MMTCO_2e$ beyond current policies and programs. The cornerstone of the 2017 Scoping Plan Update is an expansion of the cap-and-trade program to meet the aggressive 2030 GHG emissions goal represented by SB 32 and ensure achievement of the 2050 limit set forth by Executive Order B-30-15.

California Integrated Waste Management Act and California Assembly Bill 341

The legislature passed the California Integrated Waste Management Act of 1989 (AB 939) in 1990, requiring all cities and counties to divert 50 percent of all solid waste from landfill facilities by January 1, 2000. In order of priority, waste reduction efforts must promote source reduction, recycling and composting, and environmentally safe transformation and land disposal. AB 341 (Public Resources Code Division 30, Part 3, Chapter 12.8), which became law in 2011, established a new statewide goal of 75 percent diversion by 2020, and changed the way that the state measures progress toward the 75 percent goal, focusing on source reduction, recycling, and composting. AB 341 also requires all businesses and public entities that generate 4 cubic yards or more of waste per week to have a recycling program in place. The objective of the law is to reduce GHG emissions by diverting commercial solid waste into recycling programs and expand

[12] California Air Resources Board. 2008. *Climate Change Scoping Plan*. Adopted December 11, 2008, re-approved by CARB August 24, 2011. Pages ES-1 and 17.

[13] California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target.* November 2017. Available: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf. Accessed August 2021.

the opportunity for additional recycling services and recycling manufacturing facilities in California. Although AB 341 established a statewide recycling goal of 75 percent, the 50 percent disposal reduction mandate still applies for cities and counties under AB 939.

Assembly Bill 1826

AB 1826 (Public Resources Code Division 30, Part 3, Chapter 12.9, Commercial Organic Waste Recycling Law) became effective on January 1, 2016, and requires businesses (including commercial and public entities) and multi-family complexes (with 5 units or more) that generate specified amounts of organic waste (compost) to arrange for organics collection services. This regulation reduces solid waste disposal, which leads to a reduction in the carbon footprint of the solid waste sector. The law phased in the requirements on businesses, with full implementation in 2019:

- **First Tier:** Commencing in April 2016, the first tier of affected businesses included those that generate 8 or more cubic yards of organic materials per week.
- **Second Tier:** In January 2017, the affected businesses expanded to include those that generate 4 or more cubic yards of organic materials per week.
- **Third Tier**: In January 2019, the affected businesses further expanded to include those that generate 4 or more cubic yards of commercial solid waste per week.

California Green Building Standards Code

In January 2010, the State of California adopted the California Green Building Standards Code (CALGreen), which established new sustainable building standards for all buildings in California. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality. These standards include a mandatory set of minimum guidelines, as well as more rigorous voluntary measures, for new construction projects to achieve specific green building performance levels. This code went into effect as part of local jurisdictions' building codes on January 1, 2011, and was most recently updated as the 2019 California Green Building Standards Code, which became effective January 1, 2020.[14] As discussed below, CALGreen includes several residential and nonresidential electric vehicle charging requirements and recommendations.

For new multi-family dwellings, the 2019 CALGreen Code mandates that "if residential parking is available, ten percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle (EV) charging spaces capable of supporting future EVSE (electric vehicle supply equipment)."[15]

Residential electric vehicle voluntary measures include Tier 1 and Tier 2 measures. Tier 1 requires 15 percent of the total number of parking spaces on a building site, provided for all types of parking facilities, but in no case less than one, shall be electric vehicle charging spaces (EV spaces)

[14] California Building Standards Commission. 2019. California 2019 Green Building Standards Code, CALGreen California Code of Regulations, Title 24, Part 11. Effective Date: January 1, 2020.

[15] California Building Standards Commission. 2019. California 2019 Green Building Standards Code, CALGreen California Code of Regulations, Title 24, Part 11. Effective Date: January 1, 2020.

capable of supporting future EVSE.[16] Tier 2 requires 20 percent of the total number of parking spaces on a building site, provided for all types of parking facilities, but in no case less than one, shall be EV spaces capable of supporting future EVSE.

For new non-residential development, approximately 6 percent of the total number of actual parking spaces are required to be EV capable spaces. There are also Tier 1 and Tier 2 nonresidential electric vehicle charging voluntary measures. For Tier 1, approximately 8 percent of the total number of actual parking spaces are recommended to be EV charging capable spaces and for Tier 2, approximately 10 percent of the total number of actual parking spaces are recommended to be EV capable charging spaces.

Local

City of Sacramento Climate Action Plan and Sacramento 2035 General Plan

The City of Sacramento Climate Action Plan (CAP) was adopted in February 2012. It included several initiatives to reach its goal of reducing community-wide GHG emissions by 15 percent below 2005 levels by 2020, 38 percent below 2005 levels by 2030, and 83 percent below 2005 levels by 2050.[17]

In March 2015, the CAP was incorporated into appropriate elements the City's 2035 General Plan (General Plan), which is the City's current action plan for reducing GHG emissions and adapting to climate change.[18] The General Plan includes various climate strategies, measures, and actions to address GHG emissions and reduce the City's contribution to climate change. Mixed-use development that encourages walking and biking, use of public transit, "green building" practices, use of solar energy systems, architectural design to reduce heat gain, recycled construction materials, and water conservation measures are some of the strategies included in the 2035 General Plan. Appendix B of the General Plan is entitled "Climate Action Plan Policies and Programs." Most of the listed items are "supporting," which, in this context, means that no specific quantitative GHG emission reduction target was developed for the item, but that the implementation of the policy or program would *support* the City's overall efforts to reduce local sources of GHG emissions.

Although the current CAP, as presented in the 2035 General Plan, is a CEQA-qualified CAP consistent with the Section 15183.5 requirements for tiering GHG analysis of projects, it was only valid as such through 2020. As discussed above, it includes a 2020 Citywide GHG target derived from the AB 32 statewide target for 2020 and also includes GHG emissions forecasts through the year 2030 and beyond, and GHG reduction "goals" for the years 2030 and 2050. However, it does not present citywide targets beyond the year 2020, nor does it demonstrate with specific enforceable actions how the City would achieve its 2030 and 2050 goals.[19] Therefore, it is not CEQA-qualified for the planning horizons of 2030 and 2050, and cannot be used for tiering

[16] Electric vehicle capable means installation of an electric panel plus installed raceways to the EV charging site.
[17] City of Sacramento. 2012. *Sacramento Climate Action Plan*. Adopted February 14, 2012. Pages i–xiv.
[18] City of Sacramento. 2015. *General Plan Climate Action Plan Policies and Programs*, Appendix B. Pages 1–78.
[19] The 2012 CAP was adopted prior to the passing of SB 32. Accordingly, it does not present a 2030 community GHG target based on the SB 32 statewide target for 2030.

CEQA analysis of post-2020 projects, such as the proposed project, by demonstrating project consistency with the CAP.

In 2018, the City initiated an update to the General Plan. The 2040 General Plan will be the City's blueprint for how and where Sacramento will grow over the next 20 years. In parallel, the City will also be preparing an updated CAP that outlines a community-wide framework for reducing GHG emissions consistent with SB 32 and with the goal of providing a CEQA-qualified plan that can be used for project tiering out to 2030 and beyond.

Mayors' Commission on Climate Change's Achieving Carbon Zero in Sacramento and West Sacramento by 2045 Draft Report

In June 2020, the Mayors' Commission on Climate Change published the *Achieving Carbon Zero in Sacramento and West Sacramento by 2045,* Final Report. This report, initiated by Sacramento Mayor Darrell Steinberg and then-West Sacramento Mayor Christopher Cabaldon, includes recommendations to achieve carbon zero in Sacramento and West Sacramento by the year 2045. The report identifies strategies that focus on the built environment, mobility, and community health and resiliency to achieve zero carbon goals, promote public health, and improve climate resiliency within the two cities. The carbon zero recommendations identified by the Mayors' Commission on Climate Change that would be applicable to the proposed project are summarized in **Table 4.6-1**, below.

TABLE 4.6-1
MAYORS' COMMISSION ON CLIMATE CHANGE'S CARBON ZERO RECOMMENDATIONS APPLICABLE TO THE PROPOSED PROJECT

Goal	Description
Built Environment	
Sustainable Land Use	Support infill growth that is consistent with the regional Sustainable Communities Strategy to ensure: • 90% of the cities' growth is in the established and center/corridor communities and is 90% small-lot and attached homes by 2040. • Project level vehicle miles traveled (VMT) is 15% below (or 85% of) the regional average.
Mobility	
Active Transportation	Expand and enhance accessibility to low-stress, connected infrastructure for walking and rolling, prioritizing improvements that address specific community and neighborhood needs so that: • 30% of all trips are by active transportation by 2030. • 40% of all trips are by active transportation by 2045.
Transit and Shared Mobility	Expand and improve transit and shared mobility services to be more accessible, affordable, timely, and attractive than single-occupancy-vehicle use so that: • 30% of all trips are by transit and pooled shared mobility by 2030. • 50% of all trips are by transit and pooled shared mobility by 2045.
Community Health and Resiliency	
Urban Greening and Forestry	Expand green infrastructure to ensure that all neighborhoods, starting with historically marginalized communities and tree-deficient neighborhoods, have: • Access to green space within a quarter-mile by 2030. • A baseline canopy of 25% by 2030, and 35% by 2045.

SOURCE: Mayors' Commission on Climate Change. 2020. *Achieving Carbon Zero in Sacramento and West Sacramento by 2045.* April 2020. Available: https://www.lgc.org/wordpress/wp-content/uploads/2020/04/MCCC-Report_Public-Draft_April_21_2020.pdf. Accessed May 5, 2020.

City of Sacramento Electric Vehicle Charging Ordinance

On April 20, 2021, the City adopted an EV charging ordinance that requires new nonresidential, multi-family dwellings, and hotels and motels to provide 20 percent EV capable charging spaces and at least one installed, operational Level 2 EV charger, effective January 1, 2023, for new construction of three stories or less, and effective January 1, 2026, for new construction of four stories or more (Sacramento City Code Chapter 15.38).[20]

City of Sacramento New Building Electrification Ordinance

On June 1, 2021, the City adopted the New Building Electrification Ordinance that amended Title 15 of the Sacramento City Code to require:

1. Building permit applications filed on or after January 1, 2023, for all newly constructed buildings that are three stories or less to be all-electric buildings.

2. Building permit applications filed on or after January 1, 2026, for all newly constructed buildings that are four stories or more to be all-electric buildings.

3. Limited exemptions that would allow the use of mixed-fuel technologies for specific use cases will be available to permits filed through December 31, 2025, unless the exemption timeline is extended by the City Council due to feasibility and availability of technology.

    a. A limited exemption for food establishments for cooking equipment only.

    b. A limited exemption for manufacturing process loads within a manufacturing or industrial facility.

    c. A limited exemption (for water heaters only) in regulated affordable housing when virtual net energy metering (VNEM) is not available.

The ordinance also includes provisions for an infeasibility waiver process for those portions of the project where all electric is infeasible. The process would allow an applicant to request an infeasibility exemption when they can demonstrate to the satisfaction of the City building official that it is technically infeasible to meet the requirements of this ordinance. For example, manufacturing and special use sectors may have certain types of equipment that cannot be feasibly electrified while maintaining critical services, such as co-generation plants and emergency generators.[21]

City of Sacramento Pedestrian Master Plan

The Pedestrian Master Plan, adopted in September 2006, seeks to improve the pedestrian network throughout the City and encourage walking as a mode of transportation. It includes 13 goals and various policies to create a walkable pedestrian environment, increase walking awareness, and

[20] City of Sacramento. 2021. Ordinance No. 2021-0015, adopted by the Sacramento City Council April 20, 2021. Available: http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/Major-Projects/Electrification-of-New-Construction/Adopted-EV-Charging-Infrastructure-Ordinance-4-20-21.pdf?la=en.

[21] City of Sacramento. 2021. New Building Electrification Ordinance. Available: http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/Major-Projects/Electrification-of-New-Construction/Electrification-QA--REVISED-81821.pdf?la=en.

increase pedestrian safety. Goals identified in the Pedestrian Master Plan that would apply to the proposed project include:

- **Goal 2:** Provide a continuous pedestrian network that connects through blocks and sites, and connects buildings to each other, to the street, and to transit facilities.
- **Goal 7:** Configure development on a site to have a strong relationship to the pedestrian setting, providing easy and frequent access and minimizing potential automobile conflicts.
- **Goal 8:** Design buildings such that their architecture enhances pedestrian activities.
- **Goal 9:** Provide pedestrian-friendly automobile parking layouts to prevent isolating pedestrians from their destinations.[22]

City of Sacramento Bicycle Master Plan

The City of Sacramento Bicycle Master Plan describes investments, policies, programs, and strategies aimed at establishing a safe, continuous bikeway network throughout the city. The Bicycle Master Plan is an extension of the goals contained in the 2035 General Plan and Climate Action Plan to reduce GHG missions through alternative modes of transportation and VMT reductions. The Bicycle Master Plan describes four overarching goals including increased ridership, increased safety, increased connectivity, and increased equity.

City of Sacramento Planning and Development Code for Bicycle Requirements

The City of Sacramento Planning and Development Code establishes bicycle parking requirements by both land use and parking district. According to the Planning and Development Code, office buildings located in urban districts require both short- and long-term bicycle parking. For short-term bicycle parking, one space is required per 20,000 gross square feet of building, and for long-term bicycle parking, one space is required per 6,667 gross square feet of building. Residential multi-family dwellings with private garages in traditional urban form districts are required to provide 0.10 short-term bicycle parking spaces per unit, or two spaces, whichever is greater. The Planning and Development Code does not require any long-term bicycle parking spaces for multi-family dwellings with private garage or dedicated storage space.

4.6.4 Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, impacts on global climate change would be considered significant if implementation of the proposed project would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

[22] City of Sacramento. 2006. *City of Sacramento Pedestrian Master Plan.* September 2006. Available: http://www.cityofsacramento.org/-/media/Corporate/Files/Public-Works/Publications/Transportation/Bicycle-Pedestrian/Sac-Ped-Plan_9-06.pdf?la=en. Accessed May 5, 2020.

Methodology and Assumptions

Emission Estimates

Project-related GHG emissions were evaluated in two categories: short-term emissions due to construction, and long-term, ongoing emissions due to operations. Estimated construction- and operation-related emissions for the project are presented below in **Table 4.6-2** and **Table 4.6-3**, respectively. Additionally, the project was evaluated for consistency with currently adopted state and local regulations and plans intended to reduce GHG emissions, including the 2017 Scoping Plan Update, Executive Order B-18-12, the California Integrated Waste Management Act, and the City of Sacramento General Plan.

GHG emissions associated with the proposed project were primarily estimated using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod is an approved emissions inventory software program that allows the user to estimate criteria pollutant and GHG emissions from land use development projects. This version of CalEEMod calculates the construction equipment exhaust emissions based on CARB's OFFROAD2011 model emission and load factors and uses vehicle emission factors from CARB's EMFAC model (2017). Project-specific information was used for modeling, when possible (e.g., land use, construction schedule, area to be developed, and vehicle trip data obtained from the traffic study prepared for the proposed project [Appendix H]). Where project-specific data are unavailable, CalEEMod default factors for construction equipment and worker trips were used.

The specific project-related point sources of GHG emissions associated with the proposed CNU Medical Center were partially estimated using CalEEMod (four diesel-powered emergency generators at the Central Plant) and partially estimated outside of CalEEMod (natural gas-fired boilers at the Central Plant). The operational emissions associated with the proposed helistop at the CNU Medical Center were calculated using the Federal Aviation Administration's (FAA) Aviation Environmental Design Tool (AEDT), Version 3d. In addition, indirect emissions that would be associated with electricity use were estimated using the Sacramento Municipal Utility District's (SMUD) estimated carbon intensity factor for year 2031 (i.e., 210 pounds per MWh).

Construction of the proposed CNU Medical Center would begin in 2022, with demolition and site preparation activities and all infrastructure and building work being completed by 2032. Full buildout for operations is assumed to occur in 2035. Full build out of the entire project was assumed to be undertaken over a 16-year period with completion by 2038. Additional assumptions and model results are presented in Appendix C.

Evaluation of Emissions

As described above in the local regulatory setting discussion, the City's 2012 CAP was adopted prior to the passing of SB 32 and does not present a 2030 community GHG target based on the SB 32 statewide emissions reduction goal for 2030. Therefore, it is not used here.

In the absence of a CEQA-qualified CAP for post-2020 projects, SMAQMD has developed and adopted an update to its land use development project GHG thresholds, which require a project to demonstrate consistency with CARB's 2017 Climate Change Scoping Plan that identifies the

framework of action for achieving the 2030 GHG target of 40 percent reduction in GHG emissions relative to 1990 levels.[23] The recommended SMAQMD significance threshold to demonstrate consistency with the statewide targets for the construction phase is 1,100 metric tons CO_2e/year. Should the project's construction emissions exceed 1,100 metric tons CO_2e in any year, there would be a significant impact.

With regard to operational emissions, the SMAQMD's technical support document, *SMAQMD Greenhouse Gas Thresholds/Best Management Practices Applicability*, identifies two recommended thresholds of significance, including 10,000 metric tons CO_2e per year for stationary sources, and 1,100 metric tons CO_2e per year for land use projects. The technical support document also identifies measures that should be applied to a project to demonstrate consistency with the 2017 Climate Change Scoping Plan and the 2045 statewide carbon neutrality goal.[24] The measures target GHG emissions sources from new development for which state policies and regulations do not achieve adequate reductions, requiring local supportive measures. These measures are known as Tier 1 and Tier 2 Best Management Practices (BMPs).

The Tier 1 BMPs are:

- **BMP 1:** Projects shall be designed and constructed without natural gas infrastructure.
- **BMP 2:** Projects shall meet the current CALGreen Tier 2 standards, except all EV capable spaces shall instead be EV ready.

If Tier 1 BMPs are not fully implemented, then emissions, including natural gas emissions, should be estimated; on-site measures should be implemented to the maximum extent feasible; the project should have the capacity to be all-electric in the future; and BMP 2 requirements should be met.

If emissions exceed 1,100 metric tons/year after applying Tier 1 BMPs, then the project must implement SMAQMD's Tier 2 BMP:

- **BMP 3:** Projects shall commit to reduce applicable project residential and office VMT by 15 percent compared to existing average residential and worker VMT per capita, respectively, and there shall be no increase in retail VMT.

  In areas with above-average existing VMT, BMP 3 requires a commitment to provide electrical capacity for future 100 percent electric vehicles.

If the project would achieve BMP 3, then the operational emissions would not be cumulatively considerable, the impact would be less than significant, and no further analysis is needed.

The proposed project has also been evaluated for its consistency with currently adopted state and local regulations intended to reduce GHG emissions, including the 2017 Scoping Plan Update, AB 1826, City of Sacramento Planning and Development Code for Bicycle Requirements, and the Sacramento 2035 General Plan.

[23] Sacramento Metropolitan Air Quality Management District. 2021. SMAQMD Greenhouse Gas Thresholds/Best Management Practices Applicability. Last updated February 26, 2021.

[24] Sacramento Metropolitan Air Quality Management District. 2021. SMAQMD Greenhouse Gas Thresholds/Best Management Practices Applicability, Last updated February 26, 2021. Available: http://www.airquality.org/LandUseTransportation/Documents/Ch6GHG2-26-2021.pdf.

Impacts and Mitigation Measures

Impact 4.6-1: Construction of the proposed project could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

Development that would be allowed under the proposed project is assumed to occur over an approximately 16-year construction period from 2022 to 2038 with full buildout and operation in 2038. Initial construction activities that would be associated with each development phase would include the demolition of existing structures (e.g., existing arena and associated structures) and site preparation (e.g., import of fill to raise the ground level at the hospital), parking areas, and development of foundations of the unbuilt structures, such as the partially constructed baseball field and stadium, followed by grading, utility upgrades, and building construction.

Table 4.6-2 presents the total construction emissions associated with the proposed project over the duration of the construction period. Total construction emissions that would be generated by the proposed CNU Medical Center are estimated to be 13,191 metric tons CO_2e during its 10-year construction period, and the remaining portions of the Innovation Park PUD would generate an estimated 20,602 metric tons CO_2e during a 16-year construction period. The combined construction emissions from the Innovation Park PUD, including the CNU Medical Center, would be approximately 33,794 metric tons CO_2e.

TABLE 4.6-2
PROJECT CONSTRUCTION GREENHOUSE GAS EMISSIONS

Construction Year	CO_2e Emissions (metric tons/year)				
	Innovation Park PUD	CNU Medical Center	Total	Exceeds Threshold?*	Amount Exceeded
2022	1,225	1,791	3,016	Yes	1,916
2023	1,597	1,737	3,334	Yes	2,234
2024	1,432	2,113	3,544	Yes	2,444
2025	1,401	992	2,393	Yes	1,293
2026	986	47	1,032	No	0
2027	1,467	505	1,973	Yes	873
2028	1,299	1,516	2,815	Yes	1,715
2029	1,281	1,495	2,776	Yes	1,676
2030	996	1,148	2,144	Yes	1,044
2031	1,422	1,329	2,751	Yes	1,651
2032	1,270	518	1,788	Yes	688
2033	1,246	-	1,246	Yes	146
2034	936	-	936	No	0
2035	1,374	-	1,374	Yes	274
2036	1,232	-	1,232	Yes	132
2037	1,227	-	1,227	Yes	127
2038	213	-	213	No	0
TOTAL	**20,602**	**13,191**	**33,794**	**---**	**16,213**

NOTE:
*The SMAQMD's significance threshold for construction related GHG emissions is 1,100 metric tons CO_2e per year.

The total emissions for each year are compared to SMAQMD's construction annual significance threshold of 1,100 metric tons CO_2e per year. As shown in Table 4.6-2, with the exception for years 2026, 2034, and 2038, annual construction emissions would exceed the significance threshold by amounts that vary between 127 and 2,444 metric tons CO_2e per year, and by a total of 16,213 metric tons CO_2e over the 16-year construction period, resulting in a **significant impact**.

Mitigation Measures:

Mitigation Measure 4.6-1a requires implementation of SMAQMD *Recommended Measures for Reducing GHG Emissions* from construction activities. Although implementation of Mitigation Measure 4.6-1a would reduce construction GHG emissions, it is either not possible to quantify the emission reductions that would be associated with the individual measures due to the nature and specifications of the CalEEMod model and/or the lack of detailed project information, or their feasibility is uncertain at this time. Therefore, to ensure that the significant impact would be reduced to a less-than-significant level, **Mitigation Measure 4.6-1b** requires the purchase of carbon offsets for any GHG emissions that exceed the annual significance threshold.

Finally, as described in the Regulatory Setting section above, the City is currently in the process of preparing an updated CAP that outlines a community-wide framework for reducing GHG emissions consistent with SB 32 and with the goal of providing a CEQA-qualified plan that can be used for project tiering out to 2030 and beyond. **Mitigation Measure 4.6-1c** provides that if projects within the PUD area are proposed subsequent to approval of a qualified CAP for the City, and are found to be in compliance with the CAP, such compliance would serve as mitigation for Impact 4.6-1, and reduce the impact to insignificance without requiring the purchase of offsets.

Mitigation Measure 4.6-1a: Implement SMAQMD BMPs for Reducing Construction Emissions (PUD, CNU).

Based on guidance from SMAQMD, the project applicant(s) and/or construction contractors shall implement the following design features and on-site measures to reduce construction GHG emissions.

i. Improve fuel efficiency from construction equipment:

   1. Limit idling time either by shutting equipment off when not in use or reducing the time of idling to no more than 3 minutes (5 minute limit is required by the state airborne toxics control measure [Title 13, sections 2449(d)(3) and 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site.

   2. Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.

   3. All equipment operators shall be trained in the proper use of equipment in accordance with the equipment manufacturer's specifications.

   4. Use the proper size of equipment for the job based on the professional experience of the construction contractor foreman.

5. Use equipment with new technologies (e.g., repowered engines, electric drive trains) where commercially available. Prior to the commencement of construction, any lack of availability shall be demonstrated with documentation from at least two heavy equipment providers in the greater Sacramento area. Such documentation shall be submitted to the City and SMAQMD.

ii. The construction contractor shall retain a qualified expert to evaluate whether on-site material hauling with trucks equipped with on-road engines would be less emissive than trucks with off-road engines based on horsepower and emission factor. If it is determined to be less emissive, and confirmed by the City and SMAQMD, trucks with on-road engines shall be used for on-site material hauling.

iii. Use alternative fuels, such as propane or solar, for generators at construction sites, or use electrical power.

iv. Use a California Air Resources Board approved low carbon fuel for construction equipment. (Oxides of nitrogen emissions from the use of low carbon fuel must not be allowed to increase due to this measure.)

v. Provide carpools, shuttle vans, transit passes, and/or secure bicycle parking for construction worker commutes.

vi. Reduce electricity use in the construction office(s) by using compact fluorescent bulbs, powering off computers every day, and replacing heating and cooling units with more efficient ones.

vii. Recycle or salvage non-hazardous construction and demolition debris (goal of at least 75 percent by weight).

viii. Use locally sourced or recycled materials for construction materials (goal of at least 20 percent based on costs for building materials, and based on volume for roadway, parking lot, sidewalk, and curb materials). Wood products utilized should be certified through a sustainable forestry program.

ix. Utilize a low carbon concrete option.

x. Use SmartWay certified trucks for deliveries and equipment transport.

Mitigation Measure 4.6-1b: Purchase of Carbon Offsets for GHG Construction Emissions (PUD, CNU).

If full implementation of Mitigation Measure 4.6-1a is determined by a qualified expert retained by the project applicant(s) and verified by the City to not reduce construction emissions below the 1,100 metric tons CO_2e/year construction threshold, prior to the commencement of the construction activities for each calendar year, project applicant(s) shall provide the City documentation that verified carbon offset credits have been purchased and retired for their fair share of the metric tons CO_2e to offset project construction-related GHG emissions that would otherwise exceed the SMAQMD's construction significance threshold. Each project applicant's construction emissions calculations and estimates shall be prepared by a qualified expert and provided to the City for review and approval. The City will then determine each applicant's fair share of construction emissions within the Innovation Park PUD for that year based on the total

City-approved project construction emissions estimates for the year. Each applicant will then be responsible for mitigating its fair share of construction emissions that exceed the significance threshold. Within 60 days of City approval of the estimated emissions, the project applicant(s) shall provide verification to the City that carbon offset credits have been purchased for the amount identified by the City-approved emissions estimates.

The carbon offset credits shall be from a registry approved by CARB,[25] and be quantified and verified using protocols that are consistent with the criteria identified in the California Code of Regulations, title 17, section 95972 – namely that they be real; permanent; quantifiable; verifiable; additional as defined by Health and Safety Code section 38562, subdivisions(d)(1) and (d)(2) and California Code of Regulations, title 17, section 95802, subdivision (a); and enforceable. In addition, any offsets originating outside California must have GHG emissions programs equivalent to, or more stringent than, California's cap and trade program.

Mitigation Measure 4.6-1c: Compliance with Qualified Climate Action Plan (PUD, CNU).

As an alternative to implementation of Mitigation Measures 4.6-1a and/or 4.6-1b, if a demolition, grading, and/or building permit application for a project within the Innovation Park PUD area is submitted subsequent to the adoption of a City of Sacramento Climate Action Plan (CAP) that meets the requirements of CEQA Section 15183.5 (b), for tiering and streamlining the analysis of GHG emissions (i.e., CEQA-qualified GHG reduction plan), that project shall be designed, constructed, and operated in compliance with the CAP. The City shall document such compliance in written findings prior to the issuance of the building permit. To substantiate that the project construction complies with the requirements of the CAP, the applicant(s) shall provide the City with an analysis prepared by a qualified expert that identifies the requirements specified in the CAP that apply to construction of the project and, if those requirements are not otherwise binding and enforceable, the applicant(s) shall commit to incorporating those requirements as part of the project. Documentation of incorporation of requirements shall be submitted to the City and approved by the City prior to the commencement of construction activities and no additional mitigation shall be required.

Significance After Mitigation: Implementation of Mitigation Measures 4.6-1a, 4.6-1b, and/or 4.6-1c, as appropriate, would reduce/offset project-related construction GHG emissions to a level that would be **less than significant**.

Impact 4.6-2: Operation of the proposed project could generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

Operation of development that would be allowed under the proposed project would result in the long-term generation of GHG emissions from a variety of potential emissions sources on site (e.g., natural gas combustion for space and water heating, indirect emissions from electricity consumption, landscape maintenance) and mobile on-road and helicopter sources. Emissions from these “land use” sources are addressed under this impact. Emissions from point sources

[25] Currently, CARB-approved GHG offset registries include the Climate Action Reserve, the American Carbon Registry, and Verra (previously, Verified Carbon Standard)

associated with the CNU Medical Center Central Plant are addressed under Impact 4.6-3. Long-term emissions from energy-related sources would be minimized due to Title 24 compliance, and compliance with the City's Green Building standards.

As discussed in the *Methodology and Assumptions* discussion above, SMAQMD has identified measures to target a project's GHG emissions sources that are not adequately addressed by state measures, requiring local supportive measures that should be applied to a project to demonstrate consistency with CARB's 2017 Climate Change Scoping Plan. Project consistency with these measures, known as Tier 1 and Tier 2 BMPs, is described below.

Tier 1 BMPs 1 and 2

As described in Sections 2.4.6 and 2.5.4 in Chapter 2, *Project Description*, Pacific Gas and Electric Company (PG&E) would provide natural gas service to the Innovation Park PUD area and the CNU Medical Center site, respectively. Therefore, SMAQMD BMP 1 (projects shall be designed and constructed without natural gas infrastructure) would not be implemented by the proposed project. In addition, Section 2.5.4 states that by the completion of Phase 3, the CNU Medical Center would include 2,593 parking spaces, 519 of which would be EV capable (20 percent) and 156 of which would be EV installed (6 percent). Per the requirement of SMAQMD BMP 2, projects shall meet the current CALGreen Tier 2 standards, except all EV capable spaces (i.e., capable of supporting future EVSE) shall instead be EV ready (i.e., EVSE installed). Since CALGreen Tier 2 requires that 20 percent of residential parking spaces and 10 percent of non-residential parking spaces be EV capable, SMAQMD BMP 2 would not be fully implemented by the project.

However, per SMAQMD recommendations, since Tier 1 BMPs are not proposed to be fully implemented, a **significant impact** would occur and GHG emissions, including natural gas emissions, should be estimated and on-site measures should be implemented to the maximum extent feasible.

Operational emissions were calculated using methods consistent with the CalEEMod land use emissions model program (refer to Section 4.2, *Air Quality*). **Table 4.6-3** presents the total annual GHG emissions that would be associated with the proposed project by source at Full Buildout (2035). As shown in the table, total maximum CO_2e emissions would equal 49,144 metric tons/year, exceeding the 1,100 metric tons/year screening threshold, requiring the project to incorporate SMAQMD's Tier 1 BMPs where feasible and to secure carbon offsets for CNU Medical Center land use natural gas combustion GHG emissions, or demonstrate compliance with a City of Sacramento CAP (see **Mitigation Measures 4.6-2a, 4.6-2b, and 4.6-2c** below), and presentation of analysis related to implementation of SMAQMD's Tier 2 BMP. Note that the stationary source emissions that would be associated with the Central Plant at the CNU Medical Center campus are not included in Table 4.6-3. Those stationary source emissions are evaluated separately per SMAQMD recommendations under Impact 4.6-3, below.

TABLE 4.6-3
ANNUAL GREENHOUSE GAS EMISSIONS FROM PROJECT OPERATIONS

Source	CO_2e (MT/year)
Area	53
Energy (Natural Gas)	3,641
Energy (Electricity)	6,707
Mobile	26,562
CNU Medical Center Helistop	29
Waste	11,161
Water	991
Total Annual Operational GHG Emissions	**49,144**
Operational Emissions Screening Significance Threshold	1,100
Exceeds Threshold Requiring Implementation of BMP 3?	**Yes**

NOTE: Stationary sources are not included and are evaluated separately; see Impact 4.6-3.

SOURCE: Environmental Science Associates, 2021; Appendix C1-1.

Tier 2 BMP 3

Because the proposed project operational emissions would exceed the screening significance threshold of 1,100 metric tons/year, SMAQMD recommends implementation of BMP 3, which is a commitment to reduce applicable project residential and office VMT by 15 percent and to result in no increase in retail VMT relative to Sacramento County targets, and in areas with above average existing VMT, it requires a commitment to provide electrical capacity for future 100 percent electric vehicles.

As described in the Impact 4.10-1 discussion in *Transportation and Circulation,* Section 4.10, both residential VMT per capita (population) and nonresidential VMT per employee that would be generated by the Innovation Park PUD would be less than 85 percent of the Sacramento Area Council of Governments (SACOG) regional averages for residential and non-residential uses. Residential VMT would be 72 percent of the regional average, and nonresidential VMT would be 84 percent of the regional average. In addition, development of the proposed CNU Medical Center is anticipated to attract new vehicle trips from within the project area and redistribute trips from other medical land uses within the region, resulting in shorter trip lengths when the hospital opens for service. Since there are no existing hospitals in Natomas or the northern part of the City of Sacramento, hospital-related trips that would originate from these areas would be shortened with the addition of the proposed CNU Medical Center, resulting in an overall reduction in VMTs. Also, the proposed medical university located in Parcel D has been determined to be local serving and would have a negligible effect on regional VMT (refer to Impact 4.10-1 discussion in *Transportation and Circulation,* Section 4.10, for details).

Since the residential VMT per capita (population) and nonresidential VMT per employee that would be generated by the Innovation Park PUD would be well under 85 percent of the regional

average for residential and nonresidential uses, the operational impact would be **less than significant**, and no further analysis is needed relative to VMT-related GHG emissions.

As described above, Tier 1 BMPs related to the usage of natural gas and EV charging stations are not proposed to be fully implemented, which would result in a **significant** GHG emissions impact associated with non-compliance with those BMPs under SMAQMD's recommended CEQA guidance.

Mitigation Measures:

Mitigation Measures 4.6-2a and 4.6-2b would ensure that the proposed project incorporates SMAQMD's Tier 1 BMPs. Alternatively, as described in the Regulatory Setting section above, the City is currently in the process of preparing an updated CAP that outlines a community-wide framework for reducing GHG emissions consistent with SB 32 and with the goal of providing a CEQA-qualified CAP that meets the requirements of CEQA Section 15183.5b, for tiering and streamlining the analysis of GHG emissions (i.e., CEQA-qualified GHG reduction plan) and can be used for project tiering out to 2030 and beyond. **Mitigation Measure 4.6-2c** provides that if projects within the PUD area are proposed subsequent to approval of a qualified CAP for the City, and are found to be in compliance with the CAP, such compliance would serve as mitigation for Impact 4.6-2, and reduce the impact to less than significant.

Mitigation Measure 4.6-2a: Implement SMAQMD's Tier 1 BMPs (PUD, CNU).

Following guidance from SMAQMD, the project shall include the following design features and on-site measures to reduce operational energy emissions:

i. *Building electrification:* Consistent with the Tier 1 BMPs and the City of Sacramento's recently adopted ordinance significantly limiting natural gas infrastructure in all new construction, all buildings other than the CNU Medical Center shall be designed to be 100 percent electric and to not include any natural gas appliances, including water heaters, clothes washers and dryers, HVAC systems, and stoves.

ii. *On-site measures to offset CNU Medical Center Natural Gas Combustion GHG Emissions:*

   a. Install on-site roof-top solar PV panels or other on-site renewable energy on all buildings including the CNU Medical Center, subject to space availability.

   b. Implement an all-electric food service facility where feasible.

   c. Use electric process equipment for pharmaceutical manufacturing where feasible.

   d. The CNU Medical Center hospital building shall be constructed to achieve Leadership in Energy and Environmental Design (LEED) Gold certification.

ii. *Electric vehicle ready*: Consistent with the SMAQMD Tier 1 BMPs and the City's recently adopted EV charging ordinance, the project shall meet the CALGreen Tier 2 standards for EV charging infrastructure, except all EV capable spaces shall instead be EV ready.[26]

[26] For the purposes of this Draft EIR, "EV ready" shall mean installation of parking spaces as defined by CALGreen Section 5.106.5.3.2, plus the installation of an electrical junction box or charging outlet at charging site.

a. At least 20 percent of residential parking spaces and 10 percent of non-residential parking spaces will be EV ready.

b. At least 22 percent of parking spaces will be dedicated to any combination of low-emitting, fuel-efficient, and carpool/van pool vehicles.

Mitigation Measure 4.6-2b: Purchase of Carbon Offsets for Natural Gas Combustion GHG Emissions (PUD, CNU).

If full implementation of Mitigation Measure 4.6-2a is determined by the project applicant(s) and verified by the City as infeasible, prior to the commencement of the project operations, the project applicant(s) shall provide documentation that includes a licensed engineer's estimate of the average annual natural gas combustion CO_2e emissions that have been deemed to be essential to operations due to infeasibility of electrification for certain components of the project for City review and approval. The documentation shall include verification of purchase and retirement of credits to offset the natural gas combustion GHG emissions to net zero for each year of operations during the 40-year life of the project, using verified carbon offset credits.

The carbon offset credits shall be from a registry approved by CARB, and be quantified and verified using protocols that are consistent with the criteria identified in the California Code of Regulations, title 17, section 95972 – namely that they be real; permanent; quantifiable; verifiable; additional as defined by Health and Safety Code section 38562, subdivisions(d)(1) and (d)(2) and California Code of Regulations, title 17, section 95802, subdivision (a); and enforceable. In addition, any offsets originating outside California must have GHG emissions programs equivalent to, or more stringent than, California's cap and trade program. Within 120 days of City approval of the documented emissions estimates, the project applicant(s) shall provide evidence to the City that carbon offset credits have been purchased and retired for the purpose of offsetting the City-approved emissions estimates for the 40-year life of the project.

Mitigation Measure 4.6-2c: Compliance with Qualified Climate Action Plan (PUD, CNU).

As an alternative to implementation of Mitigation Measures 4.6-2a and/or 4.6-2b, if an occupancy permit application for a project within the Innovation Park PUD area is submitted subsequent to the adoption of a City of Sacramento Climate Action Plan (CAP), which meets the requirements of CEQA Section 15183.5 (b), for tiering and streamlining the analysis of GHG emissions (i.e., CEQA-qualified GHG reduction plan), that project shall be designed, constructed, and operated in compliance with the CAP. The City shall document such compliance in written findings prior to the issuance of the building permit. To substantiate that the project construction complies with the requirements of the CAP, the applicant(s) shall provide the City with an analysis prepared by a qualified expert that identifies the requirements specified in the CAP that apply to construction of the project and, if those requirements are not otherwise binding and enforceable, the applicant(s) shall commit to incorporating those requirements as part of the project. Documentation of incorporation of requirements shall be submitted to the City and approved by the City prior to the commencement of operations.

Significance After Mitigation: Implementation of Mitigation Measures 4.6-2a, 4.6-2b, and/or 4.6-2c would reduce the project-related land use operational GHG emissions impact to a level that would be **less than significant**.

Impact 4.6-3: Operation of the CNU Medical Center Central Plant stationary sources could generate direct GHG emissions that may have a significant impact on the environment.

The proposed CNU Medical Center Central Plant would include the operation of several stationary sources, including natural gas-fired boiler(s) and four diesel-powered emergency generators. The boiler(s) would operate 24 hours per day on a routine basis, while the emergency generators would each operate for up to 50 hours per year for maintenance and testing purposes, except for period of emergency use. As described in Table 4.6-4, annual total emissions associated with routine operations of the Central Plant boiler(s) and emergency generators as estimated using CalEEMod emission factors and would be approximately 6,692 metric tons CO_2e per year, which would not exceed the SMAQMD stationary source significance threshold of 10,000 metric tons CO_2e per year. Therefore, the GHG emissions impact associated with operations of the Central Plant boiler(s) and emergency generators would be **less than significant**.

TABLE 4.6-4
ANNUAL OPERATIONAL GREENHOUSE GAS EMISSIONS FROM PROJECT STATIONARY SOURCES

Source	CO_2e (MT/year)
CNU Medical Center Central Plant Boiler(s)	6,384
CNU Medical Center Central Plant Emergency Generator Testing	308
Total Annual Operational GHG Emissions	**6,692**
Operational Emissions Screening Significance Threshold	10,000
Exceeds Significant Threshold?	**No**

SOURCE: see Appendix C1-1.

Mitigation Measure

None required.

Impact 4.6-4: Implementation of the proposed project could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gas emissions.

Consistency with Applicable Plans and Regulations

As described below, the proposed project would be inconsistent with the emissions reduction goals identified in the 2017 Scoping Plan Update; however, it would be consistent with the following plans and regulations:

- AB 1826.
- City of Sacramento Planning and Development Code Requirements for Bicycle Parking.

- The City of Sacramento's policies and programs related to reduction of GHG emissions included in Appendix B of the 2035 General Plan.

Consistency with 2017 Scoping Plan Update

The 2017 Scoping Plan Update adopted by CARB establishes the framework for achieving the 2030 statewide GHG reduction target of 40 percent below 1990 levels. The plan update details local actions that land use development projects and municipalities can implement to support the statewide goal. For project-level CEQA analyses, the 2017 Scoping Plan Update states that projects should implement feasible mitigation, preferably measures that can be implemented onsite. The SMAQMD project-level GHG CEQA thresholds and BMPs are designed to require a project to demonstrate consistency with CARB's 2017 Climate Change Scoping Plan, which identifies the framework of action for achieving the 2030 GHG target of 40 percent reduction in GHG emissions relative to 1990 levels.[27] As described under Impacts 4.6-1 and 4.6-2, the proposed project would exceed construction and operational significance thresholds and would not fully implement SMAQMD Tier 1 BMPs; therefore, project emissions would not be consistent with the statewide emissions reduction goal identified in the 2017 Scoping Plan Update, and therefore the construction and operational impacts would be significant.

In addition, the Scoping Plan Update incorporates a broad array of regulations, policies, and state plans designed to reduce GHG emissions. Those that are applicable to the construction and operation of the proposed project are listed in **Table 4.6-5**. Actions, plans, and programs that are not under the control or influence of the proposed project, such as the Cap-and-Trade program, are not included. As shown below, the proposed project would implement sustainability features and incorporate characteristics to reduce energy use, conserve water, reduce waste generation, promote EV use, and reduce vehicle travel consistent with statewide strategies and regulations. As a result, the proposed project would not conflict with applicable Climate Change Scoping Plan strategies and regulations to reduce GHG emissions.

TABLE 4.6-5
CONSISTENCY WITH APPLICABLE GREENHOUSE GAS REDUCTION ACTIONS IN 2017 SCOPING PLAN UPDATE

Sector / Source	Category / Description	Consistency Analysis
Energy and Water		
California Renewables Portfolio Standard (RPS) and SB 100	SB 100 requires that the proportion of electricity from renewable sources be 60 percent renewable power by 2030 and 100 percent renewable power by 2045.	**Consistent.** Electricity supplied to development allowed under the proposed project would be provided by SMUD. SMUD is required to comply with SB 100 and the RPS.
California Renewables Portfolio Standard and SB 350	SB 350 requires that the proportion of electricity from renewable sources be 50 percent renewable power by 2030 (superseded by SB 100). It also requires the state to double the energy efficiency savings in existing final end uses of electricity and natural gas by retail customers through energy efficiency and conservation.	**Consistent.** Electricity to development allowed under the proposed project would be provided through SMUD. SMUD is required to comply with both the RPS and SB 350 and will meet these standards.

[27] Sacramento Metropolitan Air Quality Management District. 2021. SMAQMD Greenhouse Gas Thresholds/Best Management Practices Applicability. Last updated February 26, 2021.

TABLE 4.6-5
CONSISTENCY WITH APPLICABLE GREENHOUSE GAS REDUCTION ACTIONS IN 2017 SCOPING PLAN UPDATE

Sector / Source	Category / Description	Consistency Analysis
California Building Efficiency Standards (CCR, Title 24, Part 6)	Energy Efficiency Standards for Residential and Nonresidential Buildings	**Consistent.** Buildings constructed within the project area would be designed to comply with the applicable Title 24 Building Energy Efficiency Standards.
California Green Building Standards Code (CCR, Title 24, Part 11 - CALGreen)	California's Green Building Standards (CALGreen) Code includes energy and water efficiency requirements, as well as waste management and other design regulations that apply to residential and nonresidential buildings.	**Consistent.** Buildings constructed within the project area would comply with mandatory CALGreen measures. In addition, implementation of Mitigation Measure 4.6-2b would go beyond Tier 2 electric vehicle charging station recommendations.
Senate Bill X7-7	The Water Conservation Act of 2009 sets an overall goal of reducing per capita urban water use by 20 percent by December 31, 2020. Each urban retail water supplier shall develop water use targets to meet this goal.	**Consistent.** In addition to committing to CALGreen Tier 1 water efficiency standards, water to development allowed under the proposed project would be supplied by the City of Sacramento Department of Utilities, which is required to comply with SB X7-7 and will meet these standards.
Mobile Sources		
Advanced Clean Cars Program (ACC) and Mobile Source Strategy (MSS)	In 2012, CARB adopted the ACC program to reduce criteria pollutants and GHG emissions for model year vehicles 2015 through 2025. ACC requires the reduction of criteria pollutants and GHG emissions from light- and medium-duty vehicles. ACC also includes the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years. The Mobile Source Strategy (2106) calls for 1.5 million ZEVs (including plug-in hybrid electric, battery-electric, and hydrogen fuel cell vehicles) on the road by 2025, and 4.2 million ZEVs by 2030.	**Consistent.** The standards would apply to all vehicles used by employees and residents associated with the proposed project, and to construction workers traveling to and from the project area as required by CALGreen. In addition, pursuant to Mitigation Measure 4.6-2, charging infrastructure or stations beyond City and CALGreen regulatory requirements would accommodate future EV charging stations.
SB 375	SB 375 establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. Under SB 375, CARB is required, in consultation with the state's Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. SACOG's Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) calls for GHG reductions from passenger vehicles and light-duty trucks of 7.6 percent by 2020 and 15.6 percent by 2035.	**Consistent.** Development allowed under the proposed project would be consistent with SACOG MTP/SCS goals and objectives under SB 375 to implement "smart growth." The proposed project includes a diverse mix of uses including housing, and commercial retail that would provide employment opportunities. The close proximity of homes to jobs would reduce reliance on automobiles, thereby reducing associated emissions. The proposed project would also reduce VMT as a result of its urban infill location, with nearby access to public transportation such as the SacRT Green Line light rail, which is planned to run in Truxel Road adjacent to the project area.

TABLE 4.6-5
CONSISTENCY WITH APPLICABLE GREENHOUSE GAS REDUCTION ACTIONS IN 2017 SCOPING PLAN UPDATE

Sector / Source	Category / Description	Consistency Analysis
Solid Waste		
California Integrated Waste Management Act (IWMA) of 1989 and AB 341	The IWMA mandated that state agencies develop and implement an integrated waste management plan that outlines the steps to be taken to divert at least 50 percent of their solid waste from disposal facilities. AB 341 directs CalRecycle to develop and adopt regulations for mandatory commercial recycling and sets a statewide goal for 75 percent disposal reduction by the year 2020.	**Consistent.** Development allowed under the proposed Innovation Park PUD and CNU Medical Center would be served by a solid waste collection and recycling service that would include mixed waste processing, and that yields waste diversion results comparable to source separation and consistent with citywide recycling targets. The City of Sacramento has a goal to achieve 75 percent waste diversion by 2020 and zero waste to landfills by 2040.

Consistency with California Assembly Bill 1826

Assembly Bill 1826 requires businesses and multi-family complexes that generate specified amounts of organic waste (compost) to arrange for organics collection service. All businesses and multi-family complexes within the project area that would generate 4 or more cubic yards of organic materials or commercial solid waste per week would be required to implement organics collection. The proposed project would be consistent with AB 1826.

Consistency with the City of Sacramento Planning and Development Code for Bicycle Requirements

The City of Sacramento Planning and Development Code establishes bicycle parking requirements by both land use and parking district. Development allowed under the proposed project would be designed to comply with the City Planning and Development Code and would include bicycle parking spaces as required by the proposed project's land use designation. The proposed project would be consistent with this regulation.

Consistency with the City of Sacramento General Plan Policies addressing Climate Change

Development allowed under the proposed project would require discretionary permits from the City of Sacramento. Approving any such permit requires a finding consistency with the 2035 General Plan. The General Plan includes various policies relating to the reduction of GHG emissions; these policies serve as the City's Climate Action Plan. The proposed project would not be inconsistent with any of the policies set forth in Appendix B of the General Plan.

Conclusion

As discussed above, project emissions would not be consistent with the statewide emissions reduction goal identified in the 2017 Scoping Plan Update, and therefore the proposed project would result in a **significant impact**.

Mitigation Measures:

Mitigation Measures 4.6-1a, 4.6-1b, 4.6-1c, 4.6-2a, 4.6-2b, and 4.6-2c are designed to reduce GHG emissions and would ensure that the proposed project would be consistent with the 2017 Scoping Plan Update GHG emissions reduction target.

Mitigation Measure 4.6-1a: Implement SMAQMD BMPs for Reducing Construction Emissions.

Mitigation Measure 4.6-1b: Carbon Offsets for GHG Construction Emissions.

Mitigation Measure 4.6-1c: Compliance with Qualified Climate Action Plan.

Mitigation Measure 4.6-2a: Implement SMAQMD's Tier 1 BMPs.

Mitigation Measure 4.6-2b: Purchase of Carbon Offsets for Natural Gas Combustion GHG Emissions.

Mitigation Measure 4.6-2c: Compliance with Qualified Climate Action Plan

See Impacts 4.6-1 and 4.6-2, above, for the text of these mitigation measures.

Significance after Mitigation: Implementation of Mitigation Measures 4.6-1a, 4.6-1b, 4.6-1c, 4.6-2a, 4.6-2b, and 4.6-2c would reduce this impact associated with the incompatibility of the 2017 Scoping Plan Update to a **less-than-significant** level.

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4.7 Hazards and Hazardous Materials

This section evaluates the potential for the proposed Innovation Park PUD, including the CNU Medical Center (together referred to as the *proposed project*), to result in adverse impacts related to hazards and hazardous materials. The analysis is based on review of available reports and maps of the Innovation Park PUD area (referred to in this section as the *project area*) and vicinity, relevant regulations, and a discussion of the methodology and thresholds used to determine whether the proposed project would result in significant impacts. This section analyzes the potential for both project-level and cumulative environmental impacts. A discussion of issues and impact analysis related to potential effects related to air quality are presented in Section 4.2, *Air Quality*.

In response to the Notice of Preparation (see Appendices A and B), the Central Valley Regional Water Quality Control Board (RWQCB) summarized water quality–related regulations with which the proposed project would be required to comply. No other comments specific to hazards and hazardous materials were received.

4.7.1 Environmental Setting

Hazardous Materials

Definitions of terms used in the regulatory setting and a characterization of baseline conditions for hazards and hazardous materials are provided below.

Definitions of Hazardous Materials

Hazardous Material

The term *hazardous material* can have varying definitions depending on the regulatory programs. For the purposes of this EIR, the term refers to both hazardous materials and hazardous wastes. California Health and Safety Code Section 25501(p) defines a hazardous material as follows: "Hazardous material means any material that because of its quantity, concentrations, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment."

Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment, if released into the workplace or the environment.

Hazardous Waste

A *hazardous waste* is a waste that because of its quantity, concentration, or physical, chemical, or infectious characteristic, causes or significantly contributes to an increase in mortality or illness or poses substantial or potential threats to public health or the environment (United States Code Title 42, Section 6903(5)). Hazardous wastes are further defined under the Resource Conservation and Recovery Act (RCRA) as substances exhibiting the characteristics of ignitability, reactivity, corrosivity, or toxicity. Chemical-specific concentrations used to define whether a material is a hazardous, designated, or nonhazardous waste include Total Threshold Limit Concentrations, Soluble Threshold Limit Concentrations, and Toxic Characteristic

Leaching Procedures. These concentrations, listed in California Code of Regulations (CCR) Title 22, Section 66261 (22 CCR 66261), are used as waste acceptance criteria for landfills. Waste materials with chemical concentrations above the Total Threshold Limit Concentrations, Soluble Threshold Limit Concentrations, and Toxic Characteristic Leaching Procedures can be sent to Class I disposal facilities, may be sent to Class II disposal facilities depending on the waste material, and may not be sent to Class III disposal facilities.

Screening Levels for Hazardous Materials in Soil and Groundwater

The U.S. Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs) and San Francisco Bay RWQCB Environmental Screening Levels (ESLs) are guidelines used to evaluate the potential risk associated with chemicals found in soil or groundwater where a release of hazardous materials has occurred. Although they were developed and maintained by the San Francisco Bay RWQCB, ESLs are used by regulatory agencies throughout the state. Screening levels have been established for both residential and commercial/industrial land uses, and for construction workers. Residential screening levels are the most restrictive; soil with chemical concentrations below these levels generally would not require remediation and would be suitable for unrestricted uses.

Commercial/industrial screening levels are generally less restrictive than residential screening levels because they are based on potential worker exposure to hazardous materials in the soil (and these are generally less than residential exposures). Screening levels for construction workers are also less restrictive than those for commercial/industrial workers because construction workers are exposed to the chemical of concern only during the duration of construction, while industrial workers are assumed to be exposed over a working lifetime. Chemical concentrations below these screening levels generally would not require remediation and would be suitable for unrestricted uses, provided that the land use is commercial or industrial.

Current RSLs and ESLs are available at the following websites:

- RSLs: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables
- ESLs: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.html

Previous Agricultural Use

As discussed in Section 4.4, *Cultural and Tribal Cultural Resources*, most of the Natomas area was historically subjected to regular flooding that prevented most agricultural use. Agricultural use stabilized and increased after Reclamation District No. 1000 was formed and began constructing levees starting in 1913. The area became a sparsely populated but agriculturally productive area for most of the 20th century. The Natomas area has seen increased urban development since the late 1970s, which continues in the present day.

Agricultural activities generally included the use of pesticides, herbicides, and fertilizers, depending on the crop. Certain long-lasting pesticides, such as dichloro-diphenyl-trichloroethane (DDT), chlordane, and others, were used in the past until research revealed these chemicals to be harmful to people and the environment and the use of these pesticides in agriculture was banned

in the 1970s.[1,2] Soil samples are not known to have been collected within the project area and analyzed for pesticides, herbicides, and fertilizers. It is unknown whether legacy pesticides, herbicides, and fertilizers are present in the soil at concentrations above regulatory action levels.

Current Inactive Sports Complex

Most of the project area is currently developed as a now-defunct sports complex, consisting of two buildings, dilapidated paved surface parking, and landscaping. The complex opened in 1988 and was originally named ARCO Arena, then Power Balance Pavilion, and finally Sleep Train Arena. The arena was the home of the Sacramento Kings of the National Basketball Association from 1988 to 2016. It has remained largely unused and vacant since then. The construction date of the structures postdates USEPA's mid-1970s nationwide ban on the use of asbestos-containing materials and lead-based paint in building materials.[3,4]

Hazardous materials associated with the previous site use as a sports complex included cleaning solutions for public areas, kitchens, and restrooms. The cleaning solutions likely included soaps, bleach, and shower and toilet cleaning solutions. The construction date of the sports complex postdates the nationwide ban on the use of certain long-lasting pesticides, such as DDT and chlordane, that were banned by USEPA in the 1970s.[5,6]

The sports complex was reconfigured and outfitted in April 2020 to serve as an emergency field hospital when the spread of COVID-19 was expected to stress capacity at local hospitals for less severe cases, typically not involving COVID-19.[7] The complex was also occasionally used as a drive-through COVID-19 vaccination center.[8] The recent medical use would not have included hazardous materials.

Cortese List

The Cortese List, compiled pursuant to Government Code Section 65962.5 and referenced in Public Resources Code Section 21092.6, includes listings of hazardous waste sites from the

1 U.S. Environmental Protection Agency. 2021. DDT—A Brief History and Status. Available: https://www.epa.gov/ingredients-used-pesticide-products/ddt-brief-history-and-status. Last updated March 17, 2021. Accessed July 21, 2021.

2 U.S. Environmental Protection Agency. 2000. *Chlordane*. January 2000. Available: https://www.epa.gov/sites/default/files/2016-09/documents/chlordane.pdf. Accessed July 21, 2021.

3 U.S. Environmental Protection Agency. 2020. EPA Actions to Protect the Public from Exposure to Asbestos, Regulatory History. Available: https://www.epa.gov/asbestos/epa-actions-protect-public-exposure-asbestos. Last updated December 30, 2020. Accessed July 21, 2021.

4 U.S. Environmental Protection Agency. 2020. Protect Your Family from Sources of Lead. Available: https://www.epa.gov/lead/protect-your-family-sources-lead. Last updated December 22, 2020. Accessed July 21, 2021.

5 U.S. Environmental Protection Agency. 2021. DDT—A Brief History and Status. Available: https://www.epa.gov/ingredients-used-pesticide-products/ddt-brief-history-and-status. Last updated March 17, 2021. Accessed July 21, 2021.

6 U.S. Environmental Protection Agency. 2000. *Chlordane*. January 2000.

7 ABC-10. 2021. *Why is the Number of Occupied Beds in Old Arco Arena So Hard to Find?* January 29, 2021. Available: https://www.abc10.com/article/entertainment/television/programs/why-guy-question/why-is-the-number-of-occupied-beds-in-old-arco-arena-so-hard-to-find/103-586ba5a5-ecbd-4198-ad16-f4b64f675dc9. Accessed July 21, 2021.

8 University of California, Davis Health. 2021. *Volunteers from UC Davis Health Provide COVID-19 Vaccinations at Sleep Train Arena*. April 26, 2021.

California Department of Toxic Substances Control (DTSC) EnviroStor database, leaking underground storage tank sites from the State Water Resources Control Board (SWRCB) GeoTracker database, solid waste disposal sites with waste constituents above hazardous waste levels outside the waste management unit, active cleanup and desist orders and cleanup and abatement orders from the Central Valley RWQCB, and hazardous waste facilities subject to corrective action by DTSC.[9] No known active hazardous materials sites are located within, adjacent, or within 3,000 feet of the project site.

Schools

The following schools are located within one-quarter mile of the project area:

- Westlake Charter High School, 4400 East Commerce Way, Sacramento
- Little Blossom Montessori School, 2075 Arena Boulevard, Sacramento
- Careway Health Institute, 2081 Arena Boulevard, #260, Sacramento
- Natomas Charter School – Pact, 2920 Advantage Lane, Sacramento
- Natomas Charter School - Star Academy, 4004 Gloster Way, Sacramento

Airports

There are no public or private airports within 2 miles of the project area. However, the project area is located within the Airport Influence Area for Sacramento International Airport (SMF), as delineated in the Sacramento International Airport Land Use Compatibility Plan (ALUCP). SMF is located approximately 4 miles to the northwest.

Wildland Fires

The project area is not located within or adjacent to a Very High Fire Hazard Severity Zone, as designated by the California Department of Forestry and Fire Protection.[10]

4.7.2 Regulatory Setting

Federal

The primary federal agencies with responsibility for managing hazardous materials are USEPA, the U.S. Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation (USDOT). **Table 4.7-1** summarizes relevant federal laws, regulations, and responsible agencies.

State and local agencies often have either parallel or more stringent rules than federal agencies. In most cases, state law mirrors or overlaps federal law and enforcement of these laws is the responsibility of the state or of a local agency to which enforcement powers are delegated. For

[9] State Water Resources Control Board. 2021. GeoTracker and EnviroStor Websites. Available: https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=sacramento+ca. Accessed July 26, 2021.

[10] California Department of Forestry and Fire Protection. 2008. *Very High Fire Hazard Severity Zones in LRA*. July 30, 2008.

these reasons, the requirements of the law and its enforcement are discussed under either the state or local agency section.

TABLE 4.7-1
FEDERAL LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible Federal Agency	Description
Hazardous Materials Management	Community Right-to-Know Act of 1986 (also known as Title III of the Superfund Amendments and Reauthorization Act [SARA])	Imposes requirements to ensure that hazardous materials are properly handled, used, stored, and disposed of and to prevent or mitigate injury to human health or the environment in the event that such materials are accidentally released.
Hazardous Waste Handling	Resource Conservation and Recovery Act of 1976	Under the RCRA, USEPA regulates the generation, transportation, treatment, storage, and disposal of hazardous waste from "cradle to grave."
	Hazardous and Solid Waste Act	Amended the RCRA in 1984, affirming and extending the "cradle-to-grave" system of regulating hazardous wastes. The amendments specifically prohibit the use of certain techniques for the disposal of some hazardous wastes.
Hazardous Materials Transportation	U.S. Department of Transportation	USDOT has the regulatory responsibility for the safe transportation of hazardous materials. USDOT regulations govern all means of transportation except packages shipped by mail (49 CFR).
	U.S. Postal Service	U.S. Postal Service regulations govern the transportation of hazardous materials shipped by mail.
Occupational Safety	Occupational Safety and Health Act of 1970	OSHA sets standards for safe workplaces and work practices, including the reporting of accidents and occupational injuries (29 CFR 1910).
Radiation Control Law	Radiological Health Branch of the California Department of Public Health	Pursuant to the federal Atomic Energy Act, requiring states to assume responsibility for the use, transport, and disposal of low-level radioactive material and for the protection of the public from radiation hazards, the Radiological Health Branch of the California Department of Public Health administers the Radiation Control Law, which governs the use, transportation, and disposal of radioactive material and radiation-producing equipment. Radioactive material regulations require registration of sources of ionizing radiation, licensing of radioactive material, and protection against radiation exposures. The Radiological Health Branch also regulates the transport of radioactive materials and disposal of radioactive wastes. The regulations specify appropriate use and disposal methods for radioactive substances, as well as worker safety precautions and health monitoring programs. The Radiation Control Law applies to electronic product radiation generated by medical equipment such as diagnostic x-ray or ultrasound imaging devices, microwave or ultrasound diathermy devices, microwave blood warmers or sterilizers, laser coagulators, ultrasound phacoemulsifiers, and x-ray or electron accelerators.
Biosafety Standards	National Institutes of Health and Centers for Disease Control and Prevention, U.S. Department of Health and Human Services	A hazardous biologic material is any potentially harmful biologic material (including infectious agents, oncogenic viruses, and recombinant DNA) or any material contaminated with a potentially harmful biologic material. This includes medical waste generated at hospitals and other medical facilities. The National Institutes of Health and the Centers for Disease Control and Prevention operate under the U.S. Department of Health and Human Services and establish standards for working with biohazardous materials.

TABLE 4.7-1
FEDERAL LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible Federal Agency	Description
Airspace	Federal Aviation Administration	Any temporary or permanent structure, including all appurtenances, that exceeds an overall height of 200 feet above ground level or exceeds any obstruction standard contained in 14 CFR Part 77 shall be marked and/or lighted. Structures that may present obstructions affecting navigable airspace are required to have markings and lighting as provided under FAA's Advisory Circular 70/7460-1L, Change 2 (Obstruction Marking and Lighting). Proponents of projects that will exceed the obstruction standards defined in 14 CFR Part 77 are required to provide notice to the FAA of project construction by filing a Form 7460-1, Notice of Proposed Construction or Alteration. Receipt of notice will prompt the FAA to conduct an aeronautical study to determine whether the project would obstruct the airspace and be a hazard to air navigation.
Heliport Design	Federal Aviation Administration	The design and operation of hospital heliports are regulated under FAA's Advisory Circular 150/5390-2C (Heliport Design). This advisory circular includes details on the design of touchdown and liftoff areas, final approach and takeoff areas, markings, lighting, and safety considerations. See Section 4.1, *Aesthetics*, and Section 4.10, *Transportation*, for further discussion of FAA lighting standards.

NOTES: CFR = Code of Federal Regulations; FAA = Federal Aviation Administration; OSHA = U.S. Occupational Safety and Health Administration; RCRA = Resource Conservation and Recovery Act; USDOT = U.S. Department of Transportation; USEPA = U.S. Environmental Protection Agency

SOURCE: Data compiled by Environmental Science Associates in 2021

State

The primary state agencies with responsibility for hazardous materials management in the region are DTSC and the Central Valley RWQCB within the California Environmental Protection Agency, as well as the California Occupational Safety and Health Administration (Cal/OSHA), California Department of Public Health, California Highway Patrol (CHP), and California Department of Transportation (Caltrans). **Table 4.7-2** summarizes relevant state laws, regulations, and responsible agencies.

TABLE 4.7-2
STATE LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible State Agency	Description
Hazardous Materials Management	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program); CUPA (Health and Safety Code Section 25404 et seq.)	In January 1996, the California Environmental Protection Agency adopted regulations that implemented a Unified Program at the local level. The agency responsible for implementation of the Unified Program is called the Certified Unified Program Agency, which for Sacramento County is the Sacramento County Environmental Management Department.
	California Fire Code	The California Fire Code regulates the storage and handling of hazardous materials, including the requirement for secondary containment, separation of incompatible materials, and preparation of spill response procedures.

TABLE 4.7-2
STATE LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible State Agency	Description
Hazardous Waste Handling	California Hazardous Materials Release Response Plan and Inventory Law of 1985; CUPA	The California Hazardous Materials Release Response Plan and Inventory Law of 1985 (Business Plan Act) requires that businesses that store hazardous materials on-site prepare a hazardous materials business plan and submit it to the local CUPA, which in this case is the Sacramento County Environmental Management Department.
	California Hazardous Waste Control Act; DTSC	Under the California Hazardous Waste Control Act, California Health and Safety Code Section 25100 et seq., DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste in California. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills. DTSC is also the administering agency for the California Hazardous Substance Account Act. California Health and Safety Code Section 25300 et seq., also known as the State Superfund law, provides for the investigation and remediation of hazardous substances pursuant to state law.
Hazardous Materials Transportation	CCR Titles 13, 22, and 26	Regulates the transportation of hazardous waste originating in and passing through the state, including requirements for shipping, containers, and labeling.
	CHP and Caltrans	These two state agencies have primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies.
Occupational Safety	Cal/OSHA	Cal/OSHA has primary responsibility for developing and enforcing workplace safety regulations in California. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in Title 29 of the Code of Federal Regulations. Cal/OSHA standards are generally more stringent than federal regulations.
	Cal/OSHA regulations (CCR Title 8)	These regulations concerning the use of hazardous materials in the workplace require employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation.
California Accidental Release Prevention Program	CCR Title 19, Division 2, Chapter 4.5	The goal of the California Accidental Release Prevention Program is to reduce the likelihood and severity of consequences of any releases of extremely hazardous materials. Any business that handles regulated substances (chemicals that pose a major threat to public health and safety or the environment because they are highly toxic, flammable, or explosive, including ammonia, chlorine gas, hydrogen, nitric acid, and propane) must prepare a risk management plan. The risk management plan is a detailed engineering analysis of the potential accident factors present at a business and the measures that can be implemented to reduce this accident potential. The plan must provide safety information, hazard data, operating procedures, and training and maintenance requirements. The list of regulated substances is found in Article 8, Section 2770.5 of the program regulations.

TABLE 4.7-2
STATE LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible State Agency	Description
Construction Storm Water General Permit (Construction General Permit; Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ)	Central Valley Regional Water Quality Control Board	Dischargers whose project disturbs 1 or more acres of soil or where projects disturb less than 1 acre but are part of a larger common plan of development that in total disturbs 1 of more acres, are required to obtain coverage under the NPDES *General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). Construction activity subject to this permit includes clearing, grading, grubbing, and other disturbances to the ground such as excavation and stockpiling, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of a facility. The Construction General Permit requires the development and implementation of a storm water pollution prevention plan that includes specific best management practices designed to prevent sediment and pollutants from contacting stormwater from moving offsite into receiving waters. The best management practices fall into several categories, including erosion control, sediment control, waste management, and good housekeeping, and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area.
Municipal Separate Storm Sewer System Permit NPDES No. CAS0085324 and Order No. R5-2016-0040	Central Valley Regional Water Quality Control Board	The Municipal Separate Storm Sewer System permit requires permittees (in this case, Sacramento County and participating cities including the City of Sacramento) to reduce pollutants and runoff flows from new development and redevelopment using best management practices to the maximum extent practical. The MS4 permittee also has developed the *Stormwater Quality Design Manual*,[11] which describes planning tools and requirements to reduce urban runoff pollution to the maximum extent practicable from new development and redevelopment projects. The manual is intended to satisfy the regulatory requirements of the MS4 permit.
Underground Infrastructure	California Code of Regulations Sections 4216–4216.9	Sections 4216–4216.9, "Protection of Underground Infrastructure," require an excavator to contact a regional notification center (e.g., Underground Services Alert or Dig Alert) at least two days prior to excavation of any subsurface installations. Any utility provider seeking to begin a project that could damage underground infrastructure can call Underground Service Alert, the regional notification center for Northern California. Underground Service Alert will notify the utilities that may have buried lines within 1,000 feet of the project. Representatives of the utilities are then notified and are required to mark the specific location of their facilities within the work area prior to the start of project activities in the area.
Medical Waste	Medical Waste Management Act	The Medical Waste Management Act (Health and Safety Code Sections 117600–118360) regulates the generation, handling, storage, treatment, and disposal of medical waste. It requires that all hospitals develop and implement a medical waste management plan. The purpose of the plan is to successfully guide the proper handling of medical waste throughout the facility, including storage, transport, and disposal. The law imposes cradle-to-grave tracking and a calibration and monitoring system for on-site treatment. Facilities that treat medical waste must obtain permits to do so and are subject to annual audits.

[11] City of Citrus Heights, City of Elk Grove, City of Folsom, City of Galt, City of Rancho Cordova, City of Sacramento, and County of Sacramento. 2019. *Sacramento Region Stormwater Quality Design Manual*. October 2019.

TABLE 4.7-2
STATE LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT

Classification	Law or Responsible State Agency	Description
Health Care Facility Licensing	California Department of Public Health Services Licensing	The Centralized Applications Branch of CDPH provides standardization and consistency of state licensing and federal certification through the application process. Health care facilities and providers submit an application, an analyst validates that all required forms and supporting documents are received, and fees are paid; then the Central Applications Branch makes a determination to approve or deny the application based on the information contained in the application and its compliance with state and federal requirements. Among these requirements, the applicant is required to prepare facility-specific emergency evacuation and shelter in place procedures. Within CDPH, the Radiological Health Branch administers federal and state radiation safety laws that govern the storage, use, and transportation of radioactive materials and the disposal of radioactive waste, including the Radiation Control Law, Radiologic Technology Act, and Nuclear Medicine Technology Certification, through the implementing regulations contained in CCR Title 17. To obtain a California radioactive material license, an applicant must complete a detailed application that requires a description of plans for decontamination and decommissioning, including identification of transfer or disposal procedures taken before decommissioning and any necessary surveys. To maintain a radioactive materials license, an institution must meet training and radiation safety requirements and be subject to routine inspections.
Hospital Helistop/Airport Land Use Compatibility	California State Aeronautics Act	The State Aeronautics Act (Public Utilities Code Section 21001 et seq.) charges the Caltrans Division of Aeronautics with encouraging the development of aeronautics in California, as well as coordinating aeronautical activities between federal and local governments. The division issues permits for hospital heliports and public-use airports. CNU would submit a heliport permit application to Caltrans's Division of Aeronautics, although the proposed helistop could qualify as an Emergency Medical Services Landing Site, which would be exempt from state permitting requirements. Article 3.5 of the State Aeronautics Act governs formation of airport land use commissions. Airport land use commissions are charged with developing airport land use compatibility plans to ensure the orderly growth of public-use and military airports and surrounding areas by through policies ensuring development of airport-compatible land uses.

NOTES: Cal/OSHA = California Occupational Safety and Health Administration; Caltrans = California Department of Transportation; CCR = California Code of Regulations; CDPH = California Department of Public Health; CHP = California Highway Patrol; CNU = California Northstate University; CUPA = Certified Unified Program Agency; DTSC = California Department of Toxic Substances Control; MS4 = Municipal Separate Storm Sewer System; NPDES = National Pollutant Discharge Elimination System

SOURCE: Data compiled by Environmental Science Associates in 2021

Local

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) (California Health and Safety Code Section 25404 et seq.) requires the administrative consolidation of six hazardous materials and waste programs under one agency, a

Certified Unified Program Agency (CUPA). The following programs are consolidated under the unified program:

- Hazardous Materials Release Response Plans, and Inventory (also referred to as hazardous materials business plans)
- California Accidental Release Program
- Underground Storage Tanks
- Aboveground Petroleum Storage Spill Prevention Control and Countermeasures
- Hazardous Waste Generation and Onsite Treatment
- Uniform Fire Code Plans and Inventory Requirements

The California Secretary for Environmental Protection designated the Sacramento County Environmental Management Department (SCEMD) as the local CUPA. The CUPA is responsible for conducting compliance inspections of hazardous materials facilities in Sacramento County, including the city of Sacramento, that handle hazardous materials, generate or treat a hazardous waste, and/or operate underground storage tanks. The CUPA uses education and enforcement to minimize the risk of chemical exposure to human health and the environment. The CUPA forwards important facility information to local fire prevention agencies that enables them to take appropriate protective action in the event of an emergency at regulated facilities.

To legally store and use hazardous materials above the trigger quantities, users must apply for permits and demonstrate satisfactory compliance with regulations. The quantities that trigger disclosure are based on the maximum quantity on-site at any time:

- 55 gallons, 500 pounds, or 200 cubic feet for 30 consecutive days or more at any time in the course of a year
- Any amount of hazardous waste
- Category I or II pesticides
- Explosives
- Extremely hazardous substances above the threshold planning quantity

In addition, SCEMD permits and inspects businesses generating medical waste under the Medical Waste Program to protect public health and the environment from potential exposure to infectious disease–causing agents. The Medical Waste Program implements and enforces medical waste regulations applicable to the handling, storage, treatment, and disposal of biohazardous waste in Sacramento County.

Sacramento 2035 General Plan

The following goal and policies from the Public Health and Safety Element of the 2035 General Plan are relevant to hazards and hazardous materials.

Goal PHS 3.1: Reduce Exposure to Hazardous Materials and Waste. Protect and maintain the safety of residents, businesses, and visitors by reducing, and where possible, eliminating exposure to hazardous materials and waste.

Policy PHS 3.1.4: Transportation Routes. The City shall restrict transport of hazardous materials within Sacramento to designated routes.

Policy PHS 3.1.8: Risks from Hazardous Materials Facilities. The City shall review proposed facilities that would produce or store hazardous materials, gas, natural gas, or other fuels to identify, and require feasible mitigation for, any significant risks. The review shall consider, at a minimum, the following: presence of seismic or geologic hazards; presence of hazardous materials; proximity to residential development and areas in which substantial concentrations of people would occur; and nature and level of risk and hazard associated with the proposed project.

Sacramento City Code

The following provision from the Sacramento City Code is relevant to the proposed project.

Title 8 Health and Safety, Chapter 8.6.4 Hazardous Materials Disclosure

8.64.040 Filing of a hazardous material disclosure form.

A. Any person who uses or handles a hazardous material on the effective date of this chapter shall submit an initial completed disclosure form to the fire department on or before July 30, 1983. Thereafter, any person who uses or handles a hazardous material must annually submit a completed disclosure form. The fire department may specify in writing the time for the submittal of the form as it deems appropriate in individual cases.

B. A person not required to obtain a business operations tax certificate who uses or handles a hazardous substance shall submit a completed disclosure form by September 1st of each year.

C. Within fifteen (15) days of any:

1. New use or significant change in the use or handling of a hazardous material;
2. New use or handling of a previously undisclosed hazardous material;
3. Change of business address;
4. Change of business ownership; or
5. Change of business name;

The user shall submit a disclosure form detailing the new use or handling or other appropriate information.

Emergency Response

The *Area Plan for Emergency Response to Hazardous Materials Incidents in Sacramento County*, developed by SCEMD, provides information for agencies involved in hazardous materials response in Sacramento County.[12] The local agencies that may be called upon during an

[12] Sacramento County Environmental Management Department. 2016. *Area Plan for Emergency Response to Hazardous Materials Incidents in Sacramento County*. June 30, 2016.

emergency are SCEMD, the Sacramento County Sheriff's Department, and the Sacramento Fire Department. Other agencies, such as the Governor's Office of Emergency Services, Sacramento County Health Department, Sacramento County Public Works, and the CHP, may be called upon if additional resources are necessary to respond to a hazardous materials incident. The project area is located within this area plan.

Sacramento-Yolo Mosquito and Vector Control District

The Sacramento-Yolo Mosquito and Vector Control District provides mosquito and vector control for Sacramento and Yolo Counties. To accomplish this, the district provides ongoing surveillance of mosquitoes and other vectors to determine the threat of disease transmission and lower annoyance levels. The district has enforcement authority under the California Health and Safety Code if needed to respond to conditions that could encourage growth of mosquitoes and other vectors. The Sacramento-Yolo Mosquito and Vector Control District works with various City agencies to develop and implement abatement strategies, including working with the City's Department of Utilities (DOU). DOU oversees and applies vector control best management practices at detention basins, drainage channels, drainage pump stations, and drop inlets located throughout the city. As part of its role, DOU reviews private development projects for application of identified best management practices.

Sacramento County Evacuation Plan

The Sacramento County Evacuation Plan was developed as an annex to the Sacramento County 2008 All-Hazards Emergency Operations Plan.[13] The purpose of this evacuation plan is to document the agreed-upon strategy for the county's response to emergencies that involve evacuating persons from an affected area to a safe area. This strategy involves coordination and support for the safe and effective evacuation of the general population and for those who need additional support to evacuate. Focus areas in this evacuation plan include public alert and warning, transportation, and care and shelter.

Primary evacuation routes are established for each of the seven Sacramento County sheriff's districts. These routes include major interstates, highways, and prime arterials in Sacramento County. Local jurisdictions work with the county, and especially the Operations Section, Law Enforcement Branch, and the Evacuation Movement Unit, to identify and update evacuation routes and evacuation transfer points. The primary evacuation routes are usually major interstates and other highways, and major roadways within and out of the county, unless otherwise determined by the Sacramento County Department of Transportation. During an evacuation, Sacramento County Department of Transportation traffic engineers can quickly calculate traffic flow capacity and decide which of the available traffic routes should be used to move people in the correct directions. In many cases, the traffic engineers need to reevaluate and recalculate best traffic routes based on situational data. Interstate 5 (I-5), located immediately west of the project area, is identified as a key evacuation route.

[13] Sacramento County Office of Emergency Services. 2017. *Emergency Operations Plan, Version 1.0*. April 2017.

Sacramento County Local Hazard Mitigation Plan

The City participates in the multi-jurisdictional Sacramento County Local Hazard Mitigation Plan (LHMP), last updated in 2021.[14] The purpose of the plan is to guide hazard mitigation planning to better protect the people and property of Sacramento County from the effects of hazard events, such as floods, droughts, earthquakes, and severe weather. Implementing this plan also ensures that Sacramento County and participating jurisdictions, including the City, remain eligible for federal disaster assistance, including the Federal Emergency Management Agency's Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program. The LHMP provides policies and programs for participating jurisdictions to implement that reduce the risk of hazards and protect public health, safety, and welfare.

Sacramento International Airport Land Use Compatibility Plan

The SMF ALUCP was prepared and adopted by the Sacramento Area Council of Governments, acting in its capacity as the airport land use commission for Sacramento County. The purpose of the ALUCP is to promote compatibility between SMF and future development in surrounding areas. To achieve this purpose, the SMF ALUCP establishes policies and compatibility criteria applicable to new development in certain areas around the airport.

4.7.3 Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, impacts related to hazards and hazardous materials may be considered significant if implementation of the proposed project would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

[14] Sacramento County. 2021. *Sacramento County 2021 Multi-jurisdictional Local Hazard Mitigation Plan Update.* July 2021.

- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

Issues Not Discussed in Impacts

Because of the nature of the proposed project, the project would result in no impact related to the following topics for the reasons described below:

- ***Hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Cortese List).*** As discussed in Section 4.7.1, *Environmental Setting*, under *Hazardous Materials*, the project area is not located on or adjacent to a hazardous materials site listed on the Cortese List. Therefore, this significance criterion is not applicable to the proposed project and is not discussed further.
- ***Wildland Fires.*** As discussed in Section 4.7.1, *Environmental Setting*, under *Wildland Fires*, the project area is not located on or adjacent to a very high fire hazard severity zone as designated by the California Department of Forestry and Fire Protection. Therefore, this significance criterion is not applicable to the proposed project and is not discussed further.

Methodology and Assumptions

This analysis of the proposed project's potential environmental impacts related to hazards and hazardous materials is based on the results of a literature review and database research, and on a review of the Sacramento County General Plan.

The proposed project would be regulated by the various laws, regulations, and policies summarized above in Section 4.7.2, *Regulatory Setting*. This analysis assumes compliance by the proposed project with applicable federal, state, and local laws and regulations; state and local agencies would be expected to continue to enforce applicable requirements to the extent that they do so now. Note that compliance with many of the regulations is a condition of permit approval.

A significant impact would occur if, after considering the features described in Chapter 2, *Project Description*, and the required compliance with regulatory requirements, the impact would still be significant. For those impacts considered significant, mitigation measures are proposed to reduce the identified impacts.

Impacts and Mitigation Measures

Hazardous Materials

Impact 4.7-1: The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, disposal, or accidental release of hazardous materials.

Innovation Park PUD

Construction

Project construction equipment and materials would include fuels, oils and lubricants, solvents and cleaners, cements and adhesives, paints and thinners, degreasers, cement and concrete, and asphalt mixtures, which are all commonly used in construction. The routine use or an accidental

spill of hazardous materials could result in inadvertent releases, which could adversely affect construction workers, the public, and the environment.

Construction contractors for the proposed project would be required to comply with numerous regulations to ensure that hazardous materials are transported, used, stored, and disposed of safely to protect worker safety, and to reduce the potential for a release of construction-related fuels or other hazardous materials into the environment, including stormwater and downstream receiving water bodies. Contractors would be required to prepare and implement hazardous materials business plans, which would require them to use hazardous materials properly during construction, and to store such materials in appropriate containers with secondary containment to contain a potential release. The California Fire Code would also require measures for the safe storage and handling of hazardous materials.

Construction contractors would be required to prepare a storm water pollution prevention plan for construction activities in compliance with requirements of the National Pollutant Discharge Elimination System General Construction Permit. The storm water pollution prevention plan would list the hazardous materials (including petroleum products) proposed for use during construction; describe spill prevention measures, equipment inspections, and equipment and fuel storage; identify protocols for responding immediately to spills; and describe best management practices for controlling site runoff.

In addition, the transportation of hazardous materials would be regulated by USDOT, Caltrans, and the CHP. Together, federal and state agencies determine driver-training requirements, load labeling procedures, and container specifications designed to minimize the risk of an accidental release.

In the event of a spill that releases hazardous materials in the project area, a coordinated response would occur at the federal, state, and local levels, including by the Sacramento Metropolitan Fire District Hazardous Materials Response Team. In the event of a hazardous materials spill, the Hazardous Materials Response Team and police departments would be notified simultaneously and sent to the scene to respond and assess the situation.

As discussed in Section 4.7.1, *Environmental Setting*, before construction of the sports complex in 1988, the project area had a long history of agricultural use, which is expected to have included the use of pesticides, herbicides, and fertilizers. Certain long-lasting pesticides, such as DDT and chlordane, may still be present in the soil or groundwater at concentrations above regulatory action levels. Therefore, this impact would be **significant**.

Operation

Upon completion of project construction, contaminated soil and groundwater, if any, would have been remediated and would no longer pose risks to site users. Once constructed, the residences and commercial businesses in the project area would use and store small quantities of chemicals typical in residences and commercial operations, such as household cleaning solutions, paints and thinners, and motor fuel (e.g., vehicles and lawn mowers). Few of the chemicals would be considered hazardous materials (e.g., bleach) and the anticipated volumes would be small (i.e., less than 5 gallons). The area is also zoned for industrial use and could have light manufacturing

operations (e.g., component assembly). Light industrial use may use small quantities of cleaning solvents (e.g., acetone), paints, and thinners. Because the quantities would be small and there are existing regulations covering the transportation, use, storage, and disposal of hazardous materials, the operational impact of the proposed project related to the routine use or an accidental spill of hazardous materials would be **less than significant**.

CNU Medical Center

Construction

Construction methods associated with the CNU Medical Center would be similar to those associated with development of the overall project area. The CNU Medical Center site would have a similar potential for soil or groundwater to have chemicals at concentrations above regulatory action levels (see Section 4.7.1 *Environmental Setting, Hazardous Materials* for summary of regulatory action levels) Thus, for the same reasons as described under *Innovation Park PUD* above, this construction-related impact of the CNU Medical Center would be **significant**.

Operation

Operation of the CNU Medical Center would require the routine use of hazardous materials associated with hospitals, medical facilities, laboratory and pharmaceutical manufacturing, and residential uses. These materials generally consist of, but are not limited to, acids and bases, flammable liquids, organic and inorganic reagents, stains and dyes, compressed gases, pharmaceuticals, and radioactive materials. The Laboratory/Pharmaceutical Building would include a clinical laboratory that would manufacture small batch medicinal molecules for pre-clinical and clinical applications to the Food and Drug Administration (FDA) for approval of new uses of medications or new drug development. The Pharmaceutical Building would research, test, and manufacture medicines. This would involve researching, developing, and testing Active Pharmaceutical Ingredients (APIs), mixing them with a form of delivery (e.g., pills or injections), and applying for FDA approval. The APIs would be stored in three secured areas: (1) Incoming API Area for research, testing, and use in manufacturing the medicines, (2) Fully Manufactured Medication Area for storage of medication until FDA approval, and (3) Storage Area for distribution after FDA approval. Many of the hospital's diagnostic laboratory procedures would involve the use of small quantities of chemicals. The pathology laboratory and morgue may use aqueous solutions containing formaldehyde as a preservative. In addition, the proposed central plant building would store approximately 90,000 gallons of diesel fuel in two underground storage tanks for four backup generators to be used in emergencies.

The operation of hospitals and medical facilities that use, create, or dispose of hazardous materials is regulated and monitored; federal, state, and local regulations provide protection to the public and the environment from hazardous materials. The California Environmental Protection Agency oversees the regulation and management of hazardous materials on a statewide level through DTSC. The use of hazardous materials requires permits and monitoring through the local CUPA to avoid a hazardous waste release. The RCRA, CCR Title 22, and the Hazardous Waste Control Act regulate the generation, transport, treatment, storage, and disposal of hazardous waste. SCEMD's Medical Waste Program ensures health and safety protection for health care facility personnel and the public by minimizing or eliminating exposure to biohazardous wastes

that contain pathogenic organisms and sharps. These laws impose regulatory systems for handling hazardous waste in a manner that protects human health and the environment, including requirements for the classification of materials, packaging, and hazard communication.

CNU would be required to prepare and submit a hazardous materials business plan pursuant to the Hazardous Materials Release Response and Inventory Law. The facility would prepare a risk management plan consistent with the California Accidental Release Prevention Program. Plans for materials storage would be consistent with California Fire Code regulations for hazardous materials management and would be subject to review by SCEMD. Materials would be handled in accordance with Cal/OSHA regulations.

In addition, the storage and transport of hazardous materials would be regulated by General Plan Policy PHS 3.1.8, and Municipal Code Chapter 8.64, Hazardous Materials Disclosure. The hospital would also be listed in USEPA's database of facilities that generate, store, or transport hazardous waste pursuant to the RCRA. SCEMD would monitor the proper use, storage, and transport of potentially hazardous materials. Materials storage would follow appropriate regulations for labeling and secondary containment. Wastes generated may include ignitable wastes, corrosive wastes, lead, mercury, solvents, benzenebutanoic acid, cyclophosphamide, daunomycin, malphalan, and glucopyranose. Hazardous wastes would be collected in designated accumulation areas.

Further, the California Building Code includes special seismic requirements for hospitals under the authority of the California Office of Statewide Health Planning and Development, to ensure that hospital buildings do not fail during earthquakes and that they avoid the accidental release of hazardous materials. As described in Section 2.5.2, *CNU Medical Center Development Plan, Phasing, Phase 1, Hospital*, the hospital functions of the building would be elevated structurally to prevent critical functions from being flooded during a 200-year flood event. In addition, the two previously noted underground storage tanks would be designed to withstand being submerged during a flood event as a project design feature and in accordance with American Society of Civil Engineers (ASCE) standard ASCE 24, *Flood Resistant Design and Construction*.

The transport and disposal of medical wastes generated at the CNU Medical Center would be regulated under the California Medical Waste Management Program, which includes requirements for facilities that generate large quantities of medical waste, waste haulers, containment and storage of medical waste, and enforcement. These requirements include establishing separate waste collection areas and following labeling requirements. Radioactive materials at the medical center campus would be managed under a radioactive-material license issued by the Radiologic Health Branch of California Department of Public Health. CNU would obtain a medical waste permit as a large-quantity medical waste generator with on-site treatment as part of the Regulated Medical Waste Management Program overseen by SCEMD. The hospital would also be subject to California licensing requirements under the Radiation Control Law and Bio Safety Standards. In addition, the City would enforce the General Plan and City Code through conditions of approval for the project.

Compliance with these regulations would reduce the potential for an accidental release of hazardous materials during future operation and would minimize both the frequency and the magnitude if

such a release occurs. With enforcement of existing hazardous materials regulations and the application of relevant City policies and code requirements as conditions of approval, the CNU Medical Center would be operated with proper transport, storage, use, and disposal of hazardous materials. This operational impact of the CNU Medical Center would be **less than significant**.

Mitigation Measures

Mitigation Measure 4.7-1(a) (PUD, CNU): Conduct Phase I Environmental Site Assessment.

Before the start of ground-disturbing activities, including grading, trenching, or excavation, the project applicant shall conduct a Phase I Environmental Site Assessment in accordance with American Society of Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM E1527), 40 Code of Federal Regulations (CFR) Section 312.1, *Purpose, Applicability, Scope and Disclosure Obligations*. The purpose of the Phase I assessment is to identify Recognized Environmental Conditions (RECs), as defined in the ASTM standard. The Phase I assessment shall include the following:

- A review of governmental records to check for hazardous materials spills, releases, or violations that could affect the use of the property.
- A site inspection to visually check for RECs
- An interview of key personnel with knowledge of the historical and current uses of the property
- A report documenting the findings, identifying any data gasps that affect the identification of RECs, and recommendations for further actions, as needed (e.g., sampling of onsite soil)

Mitigation Measure 4.7-1(b) (PUD, CNU): Prepare and Implement Health and Safety Plan.

Before the start of ground-disturbing activities, including grading, trenching, or excavation, the project applicant shall require that the construction contractor(s) retain a qualified professional to prepare a site-specific health and safety plan (HASP) in accordance with regulations of the U.S. Occupational Safety and Health Administration (OSHA) (Code of Federal Regulations [CFR] Title 29, Section 1910.120 [29 CFR 1910.120]) and the California Occupational Safety and Health Administration (Cal/OSHA) (8 CCR Section 5192).

The HASP shall be implemented by the construction contractor to protect construction workers, the public, and the environment during all ground-disturbing activities. HASPs shall be submitted to the Sacramento County Environmental Management Department (SCEMD) for review and approval, and any other applicable oversight regulatory agency for review before the start of construction activities and as a condition of the grading and/or construction permit(s). The HASP shall include, but not be limited to, the following elements:

- Designation of a trained, experienced site safety and health supervisor who has the responsibility and authority to implement the site HASP.

- A summary of all potential risks to demolition and construction workers and maximum exposure limits for all known and reasonably foreseeable site chemicals. These would include the OSHA and Cal/OSHA Permissible Exposure Limits, available at Permissible Exposure Limits—Annotated Tables (https://www.osha.gov/annotated-pels).

- Specified personal protective equipment and decontamination procedures according to OSHA standards, if needed.

- The requirement to prepare documentation showing that HASP measures have been implemented during construction (e.g., tailgate safety meeting notes with a signup sheet for attendees).

- A requirement specifying that any site worker who identifies hazardous materials has the authority to stop work and notify the site's safety and health supervisor.

- Emergency procedures, including the route to the nearest hospital.

- Procedures to follow if evidence of potential soil contamination is encountered (such as soil staining, noxious odors, debris, or buried storage containers). These procedures shall be followed in accordance with hazardous waste operations regulations and specifically include, but not be limited to, immediately stopping work in the vicinity of the unknown hazardous materials release; notifying SCEMD; and retaining a qualified environmental firm to perform sampling and remediation. The remediation (i.e., cleanup) would be to existing regulatory action levels (e.g., ESLs and RSLs; see Section 4.7.1 *Environmental Setting, Hazardous Materials* for summary of regulatory action levels) acceptable to the overseeing regulatory agency (DTSC, RWQCB, or SCEMD depending on which agency has jurisdiction).

Mitigation Measure 4.7-1(c) (PUD, CNU): Develop and Implement Site Management Plan.

In support of the health and safety plan described in Mitigation Measure 4.7-1(b), the project applicant for the specific work proposed shall develop and require that its contractor(s) develop and implement a site management plan (SMP) for the management of soil and groundwater before any ground-disturbing activity. The SMP may be prepared for the entire project area, for groups of parcels, or for individual parcels. In any case, all such parcels shall be covered by such a plan. Each SMP shall include the following, at a minimum:

- Site description, including the hazardous materials that may be encountered.

- Roles and responsibilities of on-site workers, supervisors, and the regulatory agency.

- Training for site workers focused on the recognition of and response to encountering hazardous materials (see Section 4.7.1 *Environmental Setting, Hazardous Materials* for summary of regulatory action levels).

- Protocols for the testing, handling, removal, transport, and disposal of all excavated soil and dewatering effluent in a safe, appropriate, and lawful manner.

- Reporting requirement to SCEMD, documenting that site activities were conducted in accordance with the SMP.

SMPs for parcels with soil or groundwater containing chemicals above environmental screening levels for the proposed land use shall be submitted to the regulatory agency with jurisdiction (i.e., California Department of Toxic Substances Control, Central Valley Regional Water Quality Control Board, or SCEMD) for review as a condition of the grading and/or construction permit(s). The contract specifications shall mandate full compliance with all applicable federal, state, and local regulations related to the identification, transportation, and disposal of hazardous materials. Regulatory environmental screening levels include the ESLs and RSLs

For work that would encounter groundwater, contractors shall include a groundwater dewatering control and disposal plan in the SMP, specifying how groundwater (dewatering effluent) will be handled and disposed of in a safe, appropriate, and lawful manner, should any be encountered. The groundwater portion of the SMPs shall include the following information, at a minimum:

- The locations at which groundwater dewatering is likely to be required.
- Testing methods to analyze groundwater for hazardous materials.
- Appropriate treatment and/or disposal methods.
- A discussion of discharge to a publicly owned treatment works or the stormwater system, in accordance with any regulatory requirements the treatment works may have, if this effluent disposal option is to be used.

Significance after Mitigation: With implementation of Mitigation Measures 4.7-1(a), 4.7-1(b), and 4.7-1(c) (PUD, CNU), soil and groundwater with chemicals at concentrations above regulatory action levels would be removed and would no longer pose risks to construction workers, the public, and the environment. Therefore, implementation of these mitigation measures would reduce this construction-related impact of the proposed project to a **less-than-significant** level.

Schools

Impact 4.7-2: The proposed project could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

As discussed in Section 4.7.1, *Environmental Setting,* five schools are located within one-quarter mile of the project area. Construction of the proposed project would include the handling of hazardous materials. The route to the project area could pass near one or more of these schools. The accidental release or spill of hazardous materials transported through the vicinity of a school could expose schoolchildren and workers to hazardous materials.

Innovation Park PUD

Construction

The construction activities would use materials typical in the construction of structures (e.g., fuels, oils and lubricants, paints and thinners, adhesives and glues, concrete and asphalt, and structural members [steel, wood, wallboard, etc.]). None of these materials fall under the

classification of acutely hazardous materials as defined by *Chapter 4. Division of Industrial Safety, Subchapter 7. General Industry Safety Orders, Group 16. Control of Hazardous Substances, Article 109. Hazardous Substances and Processes, Appendix A to Section 5189 - List of Acutely Hazardous Chemicals, Toxics and Reactives*.

As discussed in Impact 4.7-1, numerous regulations govern the transportation, use, storage, and disposal of hazardous materials during construction activities. Section 4.7.2, *Regulatory Setting*, provides a summary of the numerous regulations that cover the packaging and transportation of hazardous materials. The required compliance with these regulations would ensure that the transportation of hazardous materials by nearby schools would not result in exposure to hazardous materials and the impact would be **less than significant**.

Operation

As discussed in Impact 4.7-1, upon the completion of construction, the residences and commercial operations in the project area would use and store small quantities of chemicals typical in residences and commercial businesses, such as household cleaning solutions, paints and thinners, and motor fuel (e.g., cars and lawn mowers), and light industrial uses may use small quantities of cleaning solvents (e.g., acetone), paints and thinners. Few of the chemicals would be considered hazardous materials (e.g., bleach) and the anticipated volumes would be small (i.e., less than 5 gallons). Because the quantities would be small, the operational impact of the proposed project related to the routine use or an accidental spill of hazardous materials would be **less than significant**.

CNU Medical Center

Construction

Construction methods associated with the CNU Medical Center would be similar to those associated with development of the overall project area. The CNU Medical Center site would have a similar potential for exposure of nearby schools to hazardous materials. Thus, for the same reasons as described under *Innovation Park PUD* above, this impact would be **less than significant**.

Operation

As discussed in Impact 4.7-1, operation of the CNU Medical Center would require the routine use of hazardous materials. The CNU facility would be subject to the numerous regulations discussed in Impact 4.7-1 and in the discussion of regulations applicable to hospital facilities presented in Section 4.7.2, *Regulatory Setting*. Given compliance with the existing regulations, this impact would be **less than significant**.

Mitigation Measure

None required.

Airports

Impact 4.7-3: The proposed project is within the Airport Influence Area of Sacramento International Airport but would not result in a safety hazard for people residing or working in the area.

Innovation Park PUD and CNU Medical Center—Construction and Operation

The project area is located in Referral Area 2 of the Airport Influence Area for SMF as delineated in the SMF Airport Land Use Compatibility Plan, and outside the Safety Zones delineated in the SMF ALUCP (part of Referral Area 1). As defined in the SMF ALUCP, *Safety Zones* are areas near an airport in which land use restrictions are established to protect the safety of the public from potential aircraft accidents.[15]

Because the proposed land uses would be located outside the SMF ALUCP Safety Zones, they are considered compatible with SMF aircraft operations. Referral Area 2 covers areas subject to the airspace protection (other than wildlife hazards) and/or overflight policies provided in the ALUCP. The project area is located outside SMF's 14 CFR Part 77 airspace protection surfaces and thus is not subject to the ALUCP's airspace protection policies; however, the project area is subject to ALUCP overflight notification policies. The overflight notification policies are applicable only to residential development.

Because the proposed project includes residential land uses, it would be subject to the ALUCP's overflight notification policies. ALUCP Policy 3.5.3 states that notice disclosing information about the presence of a nearby airport is to be given to prospective buyers of certain residential real estate within the Airport Influence Area. Notice would be provided to prospective buyers within the project area as part of the transfer of title. Because issuing notice of the presence of an airport in the project vicinity would neither interfere with the use of areas designated for residential uses nor result in a safety hazard for people residing or working in the area, the impact would be **less than significant**.

Mitigation Measure

None required.

Emergency Access

Impact 4.7-4: The proposed project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Innovation Park PUD

Construction

As discussed in Chapter 2, *Project Description*, the project area is located on vacant, unoccupied land. Construction would occur off public roads and would not require any road closures or

[15] Sacramento Area Council of Governments. 2013. *Sacramento International Airport Land Use Compatibility Plan*. December 2013.

restrictions. Construction vehicles transporting equipment, materials, and construction workers would access the project area. This amount of construction traffic could impair or interfere with emergency operations. Therefore, this impact would be **significant**.

Operation

The City of Sacramento participates in the LHMP, which guides hazard mitigation planning and includes policies and programs for participating jurisdictions to implement that reduce the risk of hazards and protect public health, safety, and welfare. The Sacramento County Evacuation Plan, which would cover the project area, describes previously agreed-upon strategies for responding to emergencies, including the safe and effective evacuation of people. Primary evacuation routes include major interstates, highways, and prime arterials. During an evacuation, Sacramento County Department of Transportation traffic engineers would calculate traffic flow capacity and identify available traffic routes to be used for evacuation. Further, the additional population in the project area would be incorporated into future updates of the Sacramento County Evacuation Plan.

In the event of an emergency that requires evacuation, the Sacramento County Evacuation Plan would be implemented. I-5, which is located immediately west of the project area, is identified as a key evacuation route. Evacuation routes would be adapted to specific situations and updated as the emergency response proceeds.

With implementation of the established emergency response plans, the impact would be **less than significant**.

CNU Medical Center

Construction

Construction methods associated with the CNU Medical Center would be similar to those associated with development of the overall project area. The CNU Medical Center site would have a similar potential for construction traffic to impair or interfere with emergency operations. Thus, for the same reasons as described under *Innovation Park PUD* above, this impact would be **significant**.

Operation

In addition to the emergency response discussed above for the overall project area, as an emergency healthcare facility, the CNU Medical Center would be designed to permit access by emergency service providers during operation. Access to the CNU Medical Center would comply with City and fire department design standards pertaining to emergency access, and the proposed project would provide a dedicated emergency vehicle access on B Street near Sports Parkway. In addition, the hospital would be designed for shelter-in-place that may continue to operate with backup generators. The proximity of the project area to I-5 would facilitate patient evacuation, if required.

Upon the completion of construction, the only additional traffic would be vehicles to and from the residences and the hospital facility. This level of traffic would not require road closures and would not interfere with emergency access, and the impact would be **less than significant**.

Mitigation Measure

Mitigation Measure 4.10-5 (PUD, CNU): Implement Construction Traffic Control Plan.

See Section 4.10, *Transportation and Circulation*, Impact 4.10-5, for the text of this mitigation measure. This measure, which would be required as a condition of permitting, would manage the movement of vehicles. The construction traffic plan would include measures to ensure that traffic, including emergency vehicles, would be able to reach the residential and commercial properties that surround the project area.

Significance after Mitigation: With implementation with Mitigation Measure 4.10-5 (PUD, CNU), movements of construction vehicles would be effectively managed, and any potential impacts related to the transport of hazardous materials, substances, or waste would be reduced to a **less-than-significant** level.

Cumulative Impacts

This section presents an analysis of the cumulative effects of the proposed project in combination with other past, present, and reasonably foreseeable future projects that could cause cumulatively considerable impacts. Significant cumulative impacts related to hazards and hazardous materials could occur if the incremental impacts of the proposed project were to combine with the incremental impacts of one or more of the cumulative projects that would be constructed as part of the buildout of the North Natomas area described in Chapter 3.7, North Natomas Community Plan, of the Sacramento 2035 General Plan.[16] In the area immediately surrounding the project area, the buildout identifies a mix of commercial, employment, residential, civic, and park uses.

As discussed previously, the proposed project would have no impact with respect to being listed on the Cortese List of hazardous materials sites, being located near an airport or airstrip, or being located in a very high fire hazard severity zone. Accordingly, the proposed project could not contribute to cumulative impacts related to these topics, which are not discussed further.

The geographic area affected by the proposed project and its potential to contribute to cumulative impacts vary based on the environmental resource under consideration. The geographic scope of analysis for cumulative hazardous materials impacts encompasses and is limited to the project area and the immediately adjacent area. This is because impacts relative to hazardous materials are generally site-specific and depend on the nature and extent of the hazardous materials release, and existing and future soil and groundwater conditions. For example, hazardous materials incidents tend to be limited to a smaller and more localized area surrounding the immediate spill location and extent of the release, and could be cumulative only if two or more hazardous materials releases spatially overlapped.

The time frame during which the proposed project could contribute to cumulative hazards and hazardous materials effects includes the construction and operational phases. For the proposed project, the operational phase is permanent. However, similar to the geographic limitations

16 City of Sacramento. 2015. *Sacramento 2035 General Plan*. Adopted March 3, 2015.

discussed above, it should be noted that impacts relative to hazardous materials are generally time-specific. Hazardous materials events could be cumulative only if two or more hazardous materials releases were to occur at the same time, and to overlap at the same location.

Hazardous Materials

Impact 4.7-5: The proposed project, in combination with other cumulative development, would not create a significant hazard to the public or the environment through the routine transport, use, disposal, or accidental release of hazardous materials.

Cumulative Impacts—Construction

During the construction phase, construction equipment and materials would include fuels, oils and lubricants, solvents and cleaners, cements and adhesives, paints and thinners, degreasers, cement and concrete, and asphalt mixtures, all of which are commonly used in construction. The routine use or an accidental spill of hazardous materials could result in inadvertent releases, which could adversely affect construction workers, the public, and the environment. Significant cumulative impacts related to construction hazards could occur if the incremental impacts of the proposed project were to combine with those of one or more of the cumulative projects to cause a substantial increase in the risk of exposure of people or the environment to hazardous materials used or encountered during construction.

During construction, the cumulative projects would be required to comply with the same existing hazardous materials regulations, including spill response, as the proposed project (see Impact 4.7-1). With the cumulative projects, responsible parties for any spills of hazardous materials would be required to remediate the spill sites to the same established regulatory standards as under the proposed project. This would be the case regardless of the number, frequency, or size of the release(s). Cumulative projects would be required to implement mitigation measures similar to Mitigation Measures 4.7-1(a), 4.7-1(b), and 4.7-1(c), described above in Impact 4.7-1. The residual less-than-significant impacts of the proposed project after mitigation would not combine with the potential residual effects of cumulative projects to cause a potential significant cumulative impact, because the residual impacts would be highly site-specific and would be below regulatory standards. Accordingly, no significant cumulative impact with respect to the use of hazardous materials would result. For these reasons, with compliance with the same existing medical facility regulations, the combined effects of the proposed project and cumulative projects would not be cumulatively considerable or result in a significant cumulative impact, and impacts related to the use of hazardous materials would be **less than significant**.

However, as discussed above in Impact 4.7-1, the project area has a long history of agricultural use and legacy chemicals, such as the pesticide DDT, may be present in soil or groundwater at concentrations above regulatory action levels, resulting in a significant project-level impact. Similarly, legacy chemicals may be present on the sites of cumulative projects that disturb soil previously used for agriculture. Therefore, this impact would be **significant**.

Cumulative Impacts—Operation

During operations, the proposed project and cumulative projects may use hazardous materials. The routine use or an accidental spill of hazardous materials could result in inadvertent releases,

which could adversely affect construction workers, the public, and the environment. Significant cumulative impacts related to operational hazards could occur if the incremental impacts of the proposed project were to combine with those of one or more of the cumulative projects to cause a substantial increase in the risk of exposure of people or the environment to hazardous materials used or encountered during the operations phase.

Once constructed, the residences and commercial operations in the project area (excluding the CNU Medical Center discussed below) would use and store small quantities of chemicals typical in residences, such as household cleaning solutions, paints and thinners, and motor fuel (e.g., cars and lawn mowers), and light industrial use may use small quantities of cleaning solvents (e.g., acetone), paints, and thinners. Few of the chemicals would be considered hazardous materials (e.g., bleach) and the anticipated volumes would be small (i.e., less than 5 gallons). Given the small quantities and compliance with existing regulations, the combined effects of the proposed project and cumulative projects would not be cumulatively considerable, and impacts would be **less than significant**.

Once constructed, the proposed CNU Medical Center would use a variety of hazardous materials during operations, as discussed above in Impact 4.7-1. As listed in Table 4.0-1, the Vibra Rehab Hospital is a cumulative proposed project that would use similar hazardous materials typical for a medical facility. The Vibra Rehab Hospital would be subject to the same regulations discussed in Impact 4.7-1. With compliance with the same existing medical facility regulations, the combined effects of the proposed project and cumulative projects would not be cumulatively considerable, and impacts would be **less than significant**.

Mitigation Measures

Mitigation Measure 4.7-1(a): Conduct Phase I Environmental Site Assessment.

Mitigation Measure 4.7-1(b): Prepare and Implement Health and Safety Plan.

Mitigation Measure 4.7-1(c): Develop and Implement Site Management Plan.

See Impact 4.7-1, above, for the text of these mitigation measures.

Significance After Mitigation: With implementation of Mitigation Measures 4.7-1(a), 4.7-1(b), and 4.7-1(c), the proposed project would reduce impacts relative to contaminated soil and/or groundwater in the project area. With these measures, along with HASPs (as required by OSHA) and site management plans (as required by Health and Safety Code Section 25100 et seq) implemented for cumulative projects, the combined effects of the proposed project and cumulative projects relative to encountering contaminated soil or groundwater at concentrations above regulatory action levels would not be cumulatively considerable, and impacts would be reduced to a **less-than-significant** level.

Schools

Impact 4.7-6: The proposed project, in combination with other cumulative development, could emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

Cumulative Impacts—Construction

As discussed in Impacts 4.7-1 and 4.7-4, numerous regulations govern the transportation, use, storage, and disposal of hazardous materials during construction activities. Required compliance with these regulations would ensure that nearby schools would not be exposed to hazardous materials and this impact would be **less than significant**. Cumulative projects would be required to comply with the same regulations covering the packaging and transportation of hazardous materials.

Cumulative Impacts—Operation

As discussed in Impacts 4.7-1 and 4.7-4, numerous regulations govern the transportation, use, storage, and disposal of hazardous materials during construction activities.

Once constructed, the residences and commercial operations in the project area would use and store small quantities of chemicals typical in residences, such as household cleaning solutions, paints and thinners, and motor fuel (e.g., cars and lawn mowers). Few of the chemicals would be considered hazardous materials (e.g., bleach) and the anticipated volumes would be small (i.e., less than 5 gallons). Given the small quantities of these chemicals and compliance with existing regulations, the combined effects of the proposed project and cumulative projects relative to proximity to schools would not be cumulatively considerable, and impacts would be **less than significant**.

Once constructed, the proposed CNU Medical Center would use a variety of hazardous materials during operations, as discussed above in Impact 4.7-1. As listed in Table 4.0-1, the Vibra Rehab Hospital is a cumulative proposed project that would use similar hazardous materials typical for a medical facility. The Vibra Rehab Hospital would be subject to the same regulations discussed in Impacts 4.7-1 and 4.7-4. With compliance with the same existing medical facility regulations, the combined effects of the proposed project and cumulative projects relative to proximity to schools would not be cumulatively considerable, and impacts would be **less than significant**.

Mitigation Measure

None required.

Airports

Impact 4.7-7: The proposed project, in combination with other cumulative development within the Airport Influence Area of Sacramento International Airport, would not result in a safety hazard for people residing or working in the area.

Cumulative Impacts—Construction and Operation

The proposed project is located within the Airport Influence Area for SMF, but it is situated outside the Safety Zones identified in the SMF ALUCP. The proposed land uses included as part

of the proposed project would be considered compatible with SMF aircraft operations. Although the proposed project would be subject to the ALUCP's overflight notification policies, these policies are focused on disclosing the presence of a nearby airport and are not safety related. Similarly, cumulative projects would be subject to ALUCP overflight notification policies. Accordingly, the combined effects of the proposed project and cumulative projects would not result in a safety hazard for people residing or working in the area, and impacts would be **less than significant**.

Mitigation Measure

None required.

Emergency Access

Impact 4.7-8: The proposed project could, in combination with other cumulative development, impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Cumulative Impacts—Construction

Construction vehicles transporting equipment, materials, and construction workers would access the project area and the cumulative project sites. This amount of construction traffic could impair or interfere with emergency operations. Therefore, this impact would be **significant**.

Cumulative Impacts—Operation

As discussed above in Impact 4.7-3, the project area is covered by the LHMP and the Sacramento County Evacuation Plan, which have established agreed-upon strategies and procedures for responding to emergencies. Cumulative projects would be subject to the same plans. Emergency responses and evacuation routes would be adapted to the specific emergency situation and updated as the emergency response proceeds. With implementation of the established emergency response plans, the combined effects of the proposed project and cumulative projects relative to emergency access would not be cumulatively considerable, and impacts would be **less than significant**.

Mitigation Measure

Mitigation Measure 4.10-5: Implement Construction Traffic Control Plan.

See Section 4.10, *Transportation and Circulation*, Impact 4.10-7, for the text of this mitigation measure. Under this measure, a construction traffic plan would be implemented to manage the movement of construction vehicles. The construction traffic plan would include measures to ensure that traffic, including emergency vehicles, would be able to reach the residential and commercial properties that surround the project area. Cumulative projects that close or restrict traffic lanes would also be required to prepare and implement traffic control plans as a condition of permitting.

Significance after Mitigation: With compliance with Mitigation Measure 4.10-7, and the requirement to prepare and adhere to a construction traffic plan, movements of construction vehicles would be effectively managed. The combined effects of the

proposed project and cumulative projects relative to emergency access would not be cumulatively considerable, and any potential impacts would be reduced to a **less-than-significant** level.

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4.8 Noise and Vibration

This section assesses the potential for development allowed under the proposed Innovation Park PUD, including the CNU Medical Center (together referred to herein as the *proposed project* and the PUD site, including the CNU Medical Center is referred to herein as the *project area*) to result in significant adverse noise impacts, or to expose people or structures to vibration impacts, and identifies feasible mitigation measures to avoid or reduce potential adverse impacts. Potential impacts are discussed and evaluated, and appropriate mitigation measures are identified as necessary.

CEQA requires the analysis of potential adverse effects of a project on the environment. Legally, potential effects of the environment on the project are not required to be analyzed or mitigated under CEQA. Nevertheless, to provide information to the public and decision-makers, this section analyzes the potential effects of noise and vibration conditions on development allowed under the proposed project. Thus, this section presents an analysis of potential adverse effects on existing risk levels from noise and vibration exposure to the proposed CNU Medical Center and residential uses allowed under the proposed Innovation Park PUD.

Comments received in response to the Notice of Preparation include requests to include an evaluation of noise impacts on the habitats of nesting birds and birds of prey. This topic is addressed in Section 4.3, *Biological Resources*, of this EIR. Comments requesting that the EIR evaluate the impact of large-scale construction proposed by the proposed Innovation Park PUD on the quiet, existing ambient environment of the area are addressed in Impact 4.8-1 of this section.

The analysis in this section was developed based on project-specific construction and operational features and assumptions, noise monitoring data gathered during visits to the project area, data provided in the Sacramento 2035 General Plan[1] and the City of Sacramento 2035 General Plan Master EIR,[2] the Sacramento City Code, and traffic information provided by the traffic consultant (see Section 4.10, *Transportation and Circulation*).

4.8.1 Environmental Setting

Fundamentals of Environmental Sound and Noise

Sound can be described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the intensity of the pressure vibrations that make up a sound. The pitch of the sound is correlated to the frequency of the sound's pressure vibration. Because humans are not equally sensitive to a given sound level at all frequencies, a special scale has been devised that specifically relates noise to human sensitivity. The A-weighted decibel (dBA) does this by placing more emphasis on frequencies that are more noticeable to the human ear.

1 City of Sacramento. 2015. *City of Sacramento 2035 General Plan.* Adopted March 3, 2015.

2 City of Sacramento. 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report.* SCH No. 2012122006. Certified March 3, 2015.

The term *noise* is typically used to denote unwanted sound. Typically, noise in any environment consists of a base of steady "background" noise made up of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These sources can vary from an occasional aircraft or train passing by to virtually continuous noise from traffic on a major highway. **Table 4.8-1** lists the A-weighted average sound levels commonly encountered in various environmental situations.

TABLE 4.8-1
REPRESENTATIVE ENVIRONMENTAL SOUND LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock Band
Jet Fly-Over at 100 feet	105	
Gas Lawn Mower at 3 feet	95	
	85	Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	80	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime	75	
Gas Lawn Mower at 100 feet	70	Vacuum Cleaner at 3 feet
Commercial Area	65	Normal Speech at 3 feet
Heavy Traffic at 300 feet	60	
	55	Large Business Office
Quiet Urban Area during Daytime	50	Dishwasher in Next Room
Quiet Urban Area during Nighttime	40	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime	35	
	30	Library
Quiet Rural Area during Nighttime	25	Bedroom at Night, Concert Hall (background)
	15	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

SOURCE: California Department of Transportation. 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. September 2013.

Noise Exposure and Community Noise

An individual's noise exposure is a measure of the noise experienced by the individual over a period of time. A noise level is a measure of noise at a given instant in time. The noise levels presented in Table 4.8-1 represent noise measured at a given instant in time; however, noise levels rarely persist consistently over a long period of time. Rather, community noise varies continuously over time because of the contributing sound sources of the community noise environment.

Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and wind. What makes

community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short-duration single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

These successive additions of sound to the community noise environment causes the community noise level to vary from instant to instant, requiring the measurement of noise exposure over a period of time to accurately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below.

L_{eq}: The equivalent continuous sound level, used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The L_{eq} is the constant sound level, which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

L_{max}: The instantaneous maximum noise level for a specified period of time.

L_{50}: The noise level that is equaled or exceeded 50 percent of the specified time. This is the median noise level during the specified time. Thus, an L_{50} represents the noise level exceeded for 30 minutes in a given hour. The numerical subscript may be changed to reflect other percentages. For example, a noise level exceeded for five minutes in a given hour would be the noise level exceeded 8.3 percent of the time, or the $L_{8.3}$.

L_{90}: The noise level that is equaled or exceeded 90 percent of the specified time. The L_{90} is often considered the background noise level averaged over the specified time.

L_{dn}: The day/night average sound level, that is, the 24-hour day and night A-weighted noise exposure level, which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night. Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance from nighttime noise. This term is also referred to as *DNL*.

CNEL: The community noise equivalent level (CNEL), which, like the L_{dn}, adds a 5-dBA "penalty" for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10-dBA penalty between the hours of 10:00 p.m. and 7:00 a.m.

SENEL: The single-event noise exposure level (SENEL), which represents all the acoustic energy (aka sound pressure) of an individual noise event as if that event had occurred within a one-second time period. SENEL captures both the level (magnitude) and the duration of a sound event in a single numerical quantity, by "squeezing" all the noise energy from an event into one second. This provides a uniform way to make comparisons among noise events of various durations.

In outdoor environments where the dominant noise sources are transportation-related (e.g., on-road motor vehicles, aircraft), there are fairly strong relationships among L_{eq}, L_{dn}, and CNEL: L_{dn} can be about 2 dB less than peak daytime hourly L_{eq},[3] while L_{dn} and CNEL typically vary by less than 1 dB and are often used interchangeably.[4]

[3] Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment.* April 2018. Appendix F.

[4] California Department of Transportation. 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. September 2013.

Effects of Noise on People

The effects of noise on people can be placed into three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction.
- Interference with activities such as speech, sleep, and learning.
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories (see **Figure 4.8-1**). Workers in industrial plants generally experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation exists in individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called *ambient noise* level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise levels, the following relationships occur[5]:

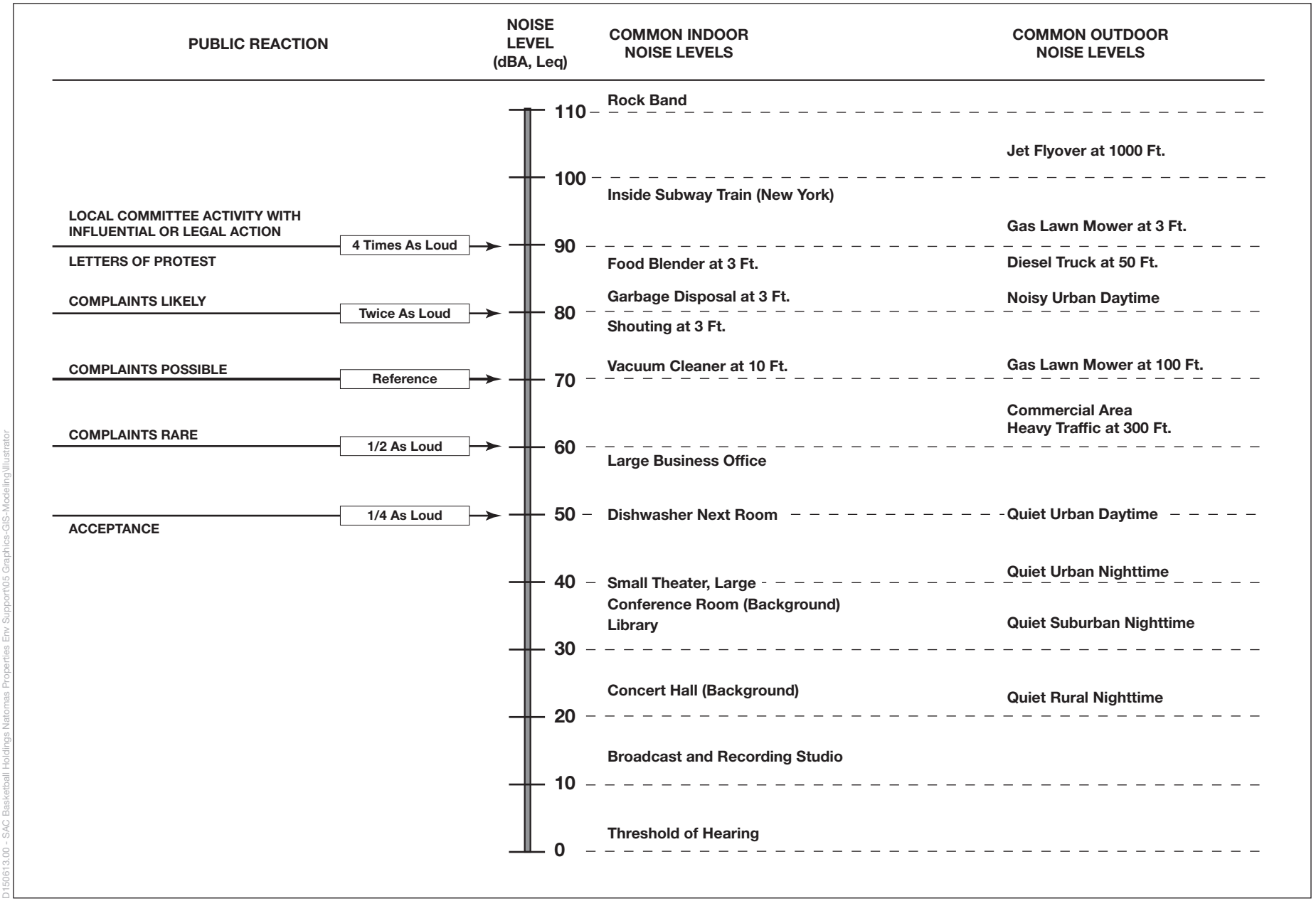
- Under controlled conditions in an acoustics laboratory, the trained healthy human ear is able to discern changes in sound levels of 1 dBA.
- Outside these controlled conditions, the trained ear can detect changes of 2 dBA in normal environmental noise.
- It is widely accepted, however, that the average healthy ear can barely perceive noise level changes of 3 dBA.
- A 5 dBA change is a readily perceptible increase in the noise level.
- A 10 dBA change is recognized as being twice as loud as the original source.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a nonlinear fashion; hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of 6 to 7.5 dBA per doubling of distance from the source, depending on the topography of the area and environmental conditions (e.g., atmospheric conditions and noise barriers, vegetative or manufactured). Widely distributed noise, such as a large industrial facility

[5] California Department of Transportation. 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. September 2013.



SOURCE: Caltrans Transportation Laboratory Noise Manual, 1982; and modification by ESA

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Figure 4.8-1
Effects of Noise on People

ESA

spread over many acres or a street with moving vehicles (known as a "line" source), would typically attenuate at a lower rate, approximately 3 to 4.5 dBA each time the distance doubles from the source, which also depends on environmental conditions.[6] Noise from large construction sites would exhibit characteristics of both point and line sources, and attenuation would therefore generally range between 4.5 and 7.5 dBA each time the distance doubles.

Health Effects of Noise

Exposure to high levels of noise can cause permanent hearing loss. The U.S. Occupational Safety and Health Administration (OSHA) has established occupational noise exposure program that includes hearing conservation standards for long-term noise exposure. Employers are required to measure noise levels; provide free annual hearing exams, hearing protection, and training; and evaluate the adequacy of the hearing protection used where noise environments exceed 85 dBA for an eight-hour daily exposure.

The World Health Organization (WHO) is a noted source of current knowledge regarding the health effects of noise impacts because European nations have continued to study noise and its health effects, while the U.S. Environmental Protection Agency all but eliminated its noise investigation and control program in the 1970s. According to WHO, sleep disturbance can occur when intermittent interior noise levels reach 45 dBA, particularly if background noise is low. WHO also notes that maintaining noise levels within recommended levels during the first part of the night is believed to be effective in helping people to initially fall asleep.[7]

Other potential health effects of noise identified by WHO include decreased performance on complex cognitive tasks, such as reading, attention span maintenance, problem solving, and memorization; physiological effects, such as hypertension and heart disease (after many years of constant exposure, often by workers, to high noise levels); and hearing impairment. (Again, this effect generally has been identified after long-term occupational exposure, although shorter term exposure to very high noise levels, such as exposure to concert noise at 100 dBA several times a year, can also damage hearing.) Finally, noise can cause annoyance and can trigger emotional reactions like anger, depression, and anxiety. WHO reports that, during daytime hours, few people are seriously annoyed by activities with noise levels below 55 dBA.

Vehicle traffic and continuous sources of machinery and mechanical noise contribute to ambient noise levels. Short-term noise sources, such as trucks' backup beepers and the crashing of materials being loaded or unloaded, contribute very little to 24-hour noise levels but can cause sleep disturbance and annoyance. The importance of noise to receptors depends on both time and context. For example, long-term high noise levels from large traffic volumes can make conversation at a normal voice level difficult or impossible, while short-term peak noise levels, if they occur at night, can disturb sleep. WHO has recently published *Environmental Noise Guidelines for the European Region* which, though not strictly applicable to the United States,

6 California Department of Transportation. 2009. *Technical Noise Supplement*. November 2009.

7 World Health Organization. 1999. *Guidelines for Community Noise*. Geneva, Switzerland. Available: http://www.euro.who.int/en/health-topics/environment-and-health/noise/environmental-noise-guidelines-for-the-european-region.

recommends reducing noise level exposures produced by road traffic below 53 dB L_{dn}, as road traffic noise above this level is associated with adverse health effects.[8]

Noise Sources and Levels

Transportation sources, such as automobiles, trucks, trains, and aircraft, are the principal sources of noise in the urban environment. Along major transportation corridors, noise levels can reach 80 dBA L_{dn}, while along arterial streets, noise levels typically range from 65 to 70 dBA L_{dn}. However, noise levels on roadways, as in all other areas, can be affected by intervening development, topography, or landscaping. Industrial and commercial equipment and operations also contribute to the ambient noise environment in their vicinities. Observations during the noise measurement survey conducted for the proposed project indicated that the most prominent source of noise in the vicinity of the project area is traffic along local roadways. Construction activity in the vicinity also contributed to the ambient noise environment at some locations. Noise from stationary sources such as air conditioning units contributed to a lesser extent.

To characterize the noise environment in the project area and surrounding area, both long- and short-term noise monitoring was conducted. Long-term noise monitoring was conducted at two locations along the boundary of the project area and adjacent to existing residences. Short-term noise monitoring was conducted at seven off-site locations near sensitive land uses and primary roadways that would be used to access the project area. **Table 4.8-2** presents a summary of the noise data collected during the noise monitoring effort. **Figure 4.8-2** shows the locations of the long-term and short-term monitoring sites.

Fundamentals of Groundborne Noise and Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. Several different methods are used to quantify vibration. The *peak particle velocity* (PPV) is defined as the maximum instantaneous peak of the vibration signal and is typically expressed in units of inches per second (in/sec). The PPV is most frequently used to describe vibration impacts on buildings. The *root mean square (RMS) amplitud*e is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (in vibration decibels, or VdB) is commonly used to measure RMS. The decibel notation acts to compress the range of numbers required to describe vibration.[9] Typically, groundborne vibration generated by human attenuates rapidly with distance from the source of the vibration.

In contrast with airborne noise, groundborne vibration is not a phenomenon that most people experience every day. The background vibration velocity level in residential areas is usually 50 VdB or lower, well below the threshold of perception for humans, which is around 65 VdB.[10] Most perceptible indoor vibration is caused by sources within buildings such as operation of

8 World Health Organization. 2018. *Environmental Noise Guidelines for the European Region*.

9 Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. September 2018. Available: https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/noise-and-vibration.

10 Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. September 2018. Available: https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/noise-and-vibration.

TABLE 4.8-2
MONITORED NOISE ENVIRONMENT IN THE PROJECT AREA AND VICINITY

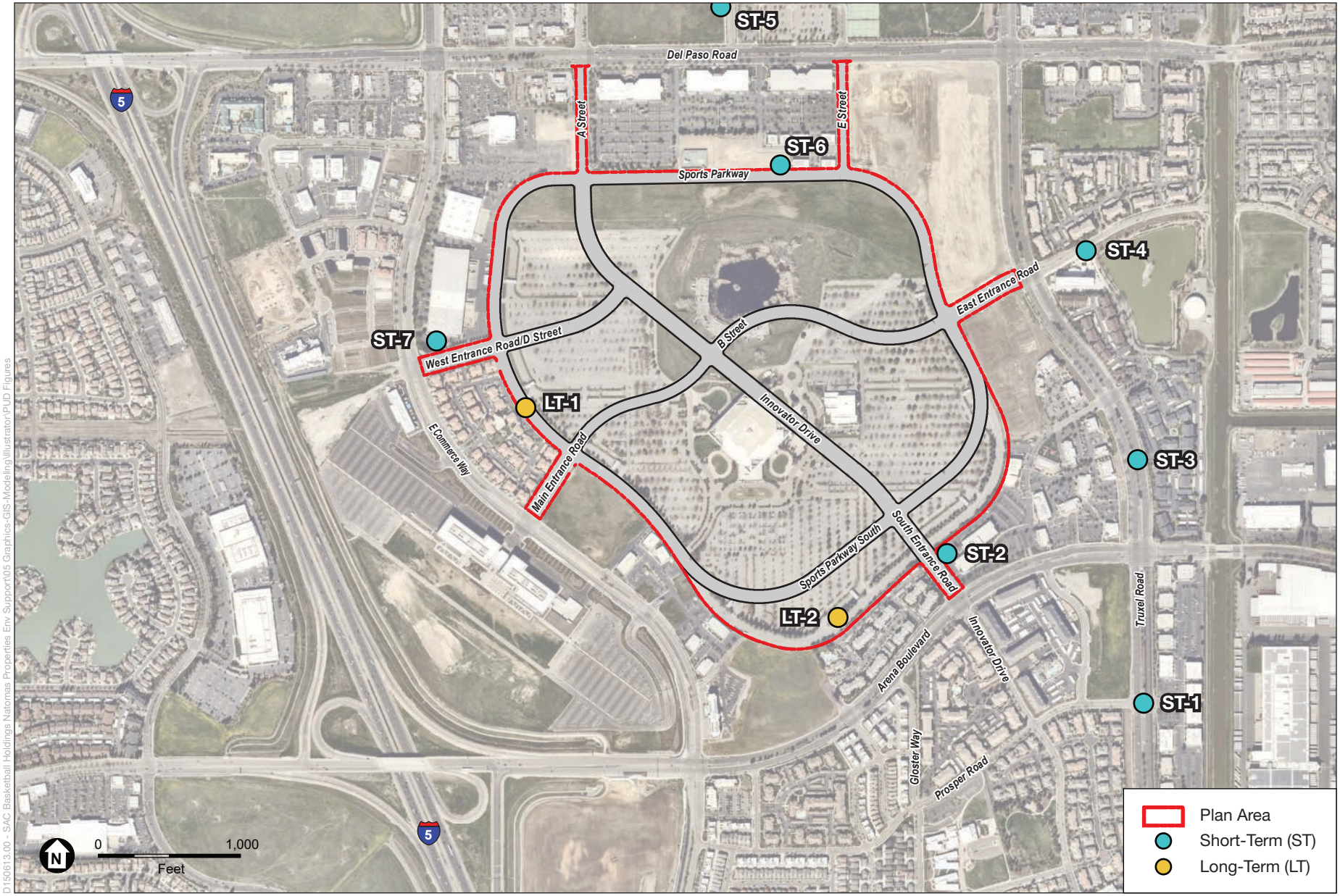
Long Term (LT) Noise Monitoring Location	Day-Night Noise level (L_{dn})	Noise Levels in dBA		
		24-hour Average L_{eq}	Daytime hourly average (7 a.m.–10 p.m.) L_{eq}	Nighttime hourly average (10 p.m.–7 a.m.) L_{eq}
LT-1: Existing paved area west of the Sleep Train Arena building, approximately 100 feet from the edge of Sports Parkway and across the street from the Bella Rose Villas condominiums	58	53	54	52
LT-2: Existing paved area south of the Sleep Train Arena building, approximately 100 feet from the edge of Sports Parkway and across the street from Ashton Parc Apartments	59	52	51	52

Short Term (ST) Noise Monitoring Location	Time	Noise Levels in dBA			
		L_{eq}	L_{max}	L_{min}	Noise Sources
ST-1: Southwest corner of the intersection of Truxel Road and Prosper Road	Daytime 2:32–2:48 p.m.	61.8	78.7	44.4	Traffic on Truxel Road and Prosper Road
ST-2: Sleep Train Arena south entrance at Arena Boulevard, about 30 feet from road in front of Ashton Parc Apartments	Daytime 11:21–11:36 a.m.	64.9	79.0	48.3	Traffic on Arena Boulevard, air conditioning equipment at nearby apartment, construction equipment across the street
ST-3: Across the street and north of Little Blossom Montessori School	Daytime 11:44–11:59 a.m.	59.8	76.0	50.3	Traffic noise, kids playing in the playground
ST-4: Terracina Drive, south of Granite Point Apartments, north of River Birch park site	Daytime 12:47–1:02 p.m.	55.0	69.5	47.5	Traffic, birds, construction equipment
ST-5: Southwest parking lot of the North Natomas Branch of the Sacramento Public Library at the corner of Via Ingoglia and Del Paso Road	Daytime 1:36–1:51 p.m.	56.0	64.1	46.3	Traffic, air conditioning units
ST-6: Parking lot west of Learning Point Christian Preschool	Daytime 1:11–1:27 p.m.	45.5	54.3	41.5	Distant traffic, air conditioning equipment, distant sirens
ST-7: South parking lot of Westlake Charter School next to the west entrance road	Daytime 2:00–2:15 p.m.	58.8	67.0	48.3	Traffic, birds

NOTES: dBA = A-weighted decibels; L_{dn} = day/night average sound level; L_{eq} = equivalent continuous sound level; L_{max} = instantaneous maximum noise level for a specified period of time

See Figure 4.8-2 for noise measurement locations.

SOURCE: Data compiled by Environmental Science Associates in 2019.



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SOURCE: Google Earth Pro, 2021; ESA, 2021

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Figure 4.8-2
Noise Monitoring Locations

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mechanical equipment, movement by people, or slamming of doors. Typical outdoor sources of perceptible groundborne vibration are trains, heavy trucks traveling on rough roads, and construction activities such as blasting, pile driving, and operation of heavy earthmoving equipment. The effects of groundborne vibration include movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile driving during construction.

Table 4.8-3 illustrates common vibration sources and the human and structural response to groundborne vibration. The range of interest is from approximately 50 VdB to 100 VdB. Background vibration is usually well below the threshold of human perception and is of concern only when the vibration affects very sensitive manufacturing or research equipment, such as electron microscopes and high-resolution photo lithography equipment.[11]

TABLE 4.8-3
TYPICAL LEVELS OF GROUNDBORNE VIBRATION

Human/Structural Response	Velocity Level (VdB)	Typical Sources (50 feet from Source)
Threshold, minor cosmetic damage fragile buildings	100	Blast from construction projects
	95	Bulldozer and other heavy tracked construction equipment
Difficulty with tasks such as reading a video display terminal (VDT) screen	90	
	85	High-speed rail, upper range
Residential annoyance infrequent events (e.g., commuter rail)	80	Rapid transit, upper range
	75	High-speed rail, typical
Residential annoyance frequent events (e.g., rapid transit)		Bus or truck over bump
Limit for vibration-sensitive equipment; approximate threshold for human perception of vibration	65	Bus or truck, typical
	50	Typical background vibration

NOTE: VdB = vibration decibels

SOURCE: Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. September 2018. Available: https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/noise-and-vibration. Page 113.

Accurate estimates of groundborne vibration are complicated because of the many factors that influence vibration levels at potential receivers. Several factors affect the levels of groundborne vibration, including soil conditions. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock. Experience has shown that vibration propagation is more efficient in clay soils and areas with shallow bedrock. The latter condition seems to channel or concentrate the vibration energy close to the surface, resulting in groundborne

[11] Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. September 2018. Available: https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/noise-and-vibration. Page 113.

vibration problems at long distances from the source. Factors such as layering of the soil and the depth to water table can also have significant effects on the propagation of groundborne vibration.

Groundborne vibration problems occur almost exclusively inside buildings. Therefore, the characteristics of the receiving building are a key component in the evaluation of groundborne vibration. Vibration may be perceptible to people who are outdoors, but it is very rare for outdoor vibration to cause complaints. The vibration levels inside a building depend on the vibration energy that reaches the building's foundation, the coupling of the building's foundation to the soil, and the propagation of the vibration through the building structure. The general guideline is that the more massive the building, the lower its response to incident vibration energy in the ground.[12]

Table 4.8-4 describes the human response to different levels of groundborne noise and vibration. The first column lists vibration velocity levels, and the subsequent two columns list the corresponding noise levels, assuming that the vibration spectrum peaks at either 30 hertz (Hz) or 60 Hz. A hertz, or Hz, is a measurement of the frequency of any periodic (repeating) event meaning "one per second." For instance, the ticking of a clock could be expressed as 1 Hz or one tick per second. Similarly, the human heart can be said to beat at 1.2 Hz or 1.2 beats per second. Generally, the A-weighted noise level is approximately 40 dB less than the vibration velocity level if the spectrum peak is around 30 Hz, and 25 dB lower if the spectrum peak is around 60 Hz. Achieving either the acceptable vibration or acceptable noise levels does not guarantee that the other will be acceptable. For example, the noise caused by vibrating structural components may be very annoying even though the vibration cannot be felt.[13]

Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others because of the amount of noise exposure (in terms of both exposure duration and insulation from noise), the populations exposed, or the types of activities typically involved. Residences, motels and hotels, schools, libraries, churches, hospitals, and nursing homes are land uses with users that are generally more sensitive to noise than are the users of commercial (other than lodging facilities), industrial, and other nonresidential land uses.

The project area does not contain any sensitive uses. The area includes the Sleep Train Arena building and former Sacramento Kings practice facility, both of which are no longer used for their primary purpose. Most of the southern portion of the project area consists of a paved parking lot and the private Sports Parkway. The northern portion of the project area is undeveloped. Uses adjacent to the project area include mixed-use commercial, multi-family residential, and vacant land uses. Figure 2-3 in Chapter 2, *Project Description,* shows the existing project area and surrounding land uses.

[12] Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. September 2018. Available: https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/noise-and-vibration. Page 154.

[13] Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. September 2018. Available: https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/noise-and-vibration. Page 119.

TABLE 4.8-4
HUMAN RESPONSE TO DIFFERENT LEVELS OF GROUNDBORNE NOISE AND VIBRATION

Vibration Level	Noise Level		Human Response
	Low-Frequency[1]	Mid-Frequency[2]	
65 VdB	25 dBA	40 dBA	Approximate threshold of perception for many humans. Low-frequency sound usually inaudible, mid-frequency sound excessive for quiet sleeping areas.
75 VdB	35 dBA	50 dBA	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find vibration at this level unacceptable. Low-frequency noise acceptable for sleeping areas, mid-frequency noise annoying in most quiet occupied areas.
85 VdB	45 dBA	60 dBA	Vibration acceptable only if there are an infrequent number of events per day. Low-frequency noise unacceptable for sleeping areas, mid-frequency noise unacceptable even for infrequent events with institutional land uses such as schools and churches.

NOTES: dBA = A-weighted decibels; VdB = vibration decibels

[1] Approximate noise level when vibration spectrum peak is near 30 hertz (Hz).

[2] Approximate noise level when vibration spectrum peak is near 60 Hz.

SOURCE: Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. September 2018. Available: https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/noise-and-vibration. Page 120.

The following existing residential sensitive receptors are located near the project area:

- Bella Rose Villas condominiums, less than 100 feet to the west.
- Ashton Parc Apartments, less than 100 feet to the south.
- Villagio Luxury Apartments, approximately 200 feet to the south.
- Granite Point Apartment Homes, approximately 300 feet to the northeast.
- Tuscaro Apartment Homes, approximately 300 feet to the east.
- Condominiums at the corner of Benefit Way and East Commerce Way, approximately 650 feet to the west.
- Beazer Homes Natomas Field Villas, approximately 650 feet to the southeast.
- Vintage at Natomas Field Senior Apartments, approximately 750 feet to the south.

Additionally, the following nonresidential sensitive receptors are located near the project area:[14]

- Learning Pointe Christian Preschool, less than 100 feet to the north.
- Westlake Charter School, approximately 100 feet to the west.
- Little Blossom Montessori School, approximately 200 feet to the east.
- Inderkum High School, approximately 800 feet to the north.

[14] Natomas Urgent Care facility is located approximately 500 feet to the east of the project area; however, while this type of facility may be considered a noise sensitive receptor for purposes of construction, unlike other noise sensitive receptors near the project area, it is not considered a noise sensitive receptor for purposes of traffic or operational noise. Accordingly, this facility not considered further in the analysis.

Additionally, the approved residential Medley Apartments will be future sensitive receptors located near the project area just west of the project site and south of the west entrance at 4170 and 4190 East Commerce Way. However, as these residences did not exist at the time of the NOP, these receptors are only considered with respect to the cumulative analysis and are not part of the existing setting.

In addition, historic-age buildings, eligible historic structures, and listed historic structures are considered sensitive to vibration impacts. As discussed in Section 4.4, *Cultural and Tribal Cultural Resources*, no historic structures are located on or around the project area.

4.8.2 Regulatory Setting

Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies. Local regulation of noise involves implementing general plan policies and noise ordinance standards. General plans at the city and county levels identify general principles intended to guide and influence development plans; local noise ordinances establish standards and procedures for addressing specific noise sources and activities. Noise issues relevant to the proposed project are addressed in California Code of Regulations (CCR) Title 24, Sacramento 2035 General Plan policies, and the Sacramento City Code's noise ordinance standards.

Federal

In 1972, the Noise Control Act (United States Code Title 42, Section 4901 et seq.) was enacted by Congress to promote limited noise environments in support of public health and welfare. It also established the U.S. Environmental Protection Agency (USEPA) Office of Noise Abatement and Control to coordinate federal noise control activities. USEPA established guidelines for noise levels that would be considered safe for community exposure without the risk of adverse health or welfare effects. **Table 4.8-5** presents important noise exposure levels highlighted by the guidelines.

USEPA found that to prevent hearing loss over the lifetime of a receptor, the yearly average L_{eq} should not exceed 70 dBA, and the L_{dn} should not exceed 55 dBA in outdoor activity areas or 45 dBA indoors to prevent interference and annoyance.[15] In 1982, noise control was largely passed to state and local governments.

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under Code of Federal Regulations Title 40, Part 205, Subpart B. The federal truck pass-by noise standard is 80 dBA at 50 feet from the vehicle pathway centerline, under specified test procedures. These requirements are implemented through regulatory controls on truck manufacturers. There are no comparable standards for vibration, which tend to be specific to the roadway surface, the vehicle load, and other factors.

[15] U.S. Environmental Protection Agency. 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.* March 1974.

TABLE 4.8-5
SUMMARY OF NOISE LEVELS REQUISITE TO PROTECT PUBLIC HEALTH AND WELFARE WITH AN ADEQUATE MARGIN OF SAFETY

Effect	Level	Area
Hearing loss	< 70 dBA[a] (L_{eq}, 24-hour)	All areas.
Outdoor activity interference and annoyance	< 55 dBA (L_{dn})	Outdoor residential areas and farms, as well as other outdoor areas where people spend varying amounts of time and places where quiet is a basis for use.
Outdoor activity interference and annoyance	< 55 dBA (L_{eq}, 24-hour)	Outdoor areas where people spend limited amounts of time, such as school yards and playgrounds.
Indoor activity interference and annoyance	< 45 dBA (L_{dn})	Indoor residential areas.
Indoor activity interference and annoyance	< 45 dBA (L_{eq}, 24-hour)	Other indoor areas with human activities, such as schools.

NOTES: dBA = A-weighted decibels; L_{dn} = day/night average sound level; L_{eq} = equivalent continuous sound level

[a] Yearly average equivalent sound levels in decibels; the exposure period that results in hearing loss at the identified level is 40 years.

SOURCE: U.S. Environmental Protection Agency. 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. Available: http://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.PDF. Accessed March 13, 2019.

Federal Transit Administration and Federal Railroad Administration

The mission of the Federal Railroad Administration (FRA) is to enable the safe, reliable, and efficient movement of people and goods within the United States. With respect to railroad noise emissions, FRA works in concert with the Federal Transit Administration (FTA). FTA has published guidance for assessing noise and vibration impacts from transit sources.[16] Additionally, this guidance provides methodologies for assessing the potential noise and vibration impacts from construction.

FTA's *Transit Noise and Vibration Impact Assessment Manual* is specifically developed for determining significant noise and vibration impacts for transit projects involving rail or bus facilities, and includes noise impact criteria. **Table 4.8-6** presents vibration impact criteria.

State

State regulations include requirements for the construction of new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings that are intended to limit the extent of noise transmitted into habitable spaces. These requirements are collectively known as the California Noise Insulation Standards and are found in CCR Title 24.

The 2016 California Building Code (CBC) (CCR Title 24, Part 2) requires that walls and floor/ceiling assemblies separating dwelling units from each other, or from public or service areas, have a sound transmission class (STC) of at least 50, meaning they can reduce noise by a minimum of 50 dB.[17] The CBC (Section 1207.4, Allowable Interior Noise Levels) also specifies a maximum interior noise limit of 45 dBA (L_{dn} or CNEL) in habitable rooms, and requires that common interior walls and floor/ceiling assemblies meet a minimum STC rating of 50 for airborne noise.

16 Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. September 2018. Available: https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/noise-and-vibration.

17 California Building Code, Section 1207.2.

TABLE 4.8-6
FEDERAL TRANSIT ADMINISTRATION GROUNDBORNE VIBRATION IMPACT CRITERIA

Land Use Category	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category I: Buildings where vibration would interfere with interior operations	65 VdB[4]	65 VdB[4]	65 VdB[4]
Category II: Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB
Category III: Institutional land uses with primarily daytime use	75 VdB	78 VdB	83 VdB

NOTES: VdB = vibration decibels

1 More than 70 vibration events of the same source per day.

2 Between 30 and 70 vibration events of the same source per day.

3 Less than 30 vibration events of the same source per day.

4 This criterion is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research should always require detailed evaluation to define the acceptable vibration levels.

SOURCE: Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. September 2018. Available: https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/noise-and-vibration.

The California Airport Noise Standards (21 CCR 5012) states that "the standard for acceptable level of aircraft noise for persons living in the vicinity of airports is hereby established to be a community noise equivalent level (CNEL) of 65 decibels."

Local

Sacramento 2035 General Plan

The following goals and policies from the 2035 General Plan's Environmental Constraints Element[18] related to noise and vibration are relevant to the proposed project, including the proposed CNU Medical Center.

Goal EC 3.1: Noise Reduction. Minimize noise impacts on human activity to ensure the health and safety of the community.

Policy EC 3.1.1: Exterior Noise Standards. The City shall require noise mitigation for all development where the projected exterior noise levels exceed those shown in **Table 4.8-7** (Table EC 1 in the General Plan), to the extent feasible.

TABLE 4.8-7
EXTERIOR NOISE COMPATIBILITY STANDARDS FOR VARIOUS LAND USES

Land Use Type	Highest Level of Noise Exposure that is Regarded as "Normally Acceptable"[a] (L_{dn}[b] or CNEL[c])
Residential—Low Density Single Family, Duplex, Mobile Homes	60 dBAd,e
Residential—Multi-family	65 dBA
Urban Residential Infillf and Mixed-Use Projectsg	70 dBA
Transient Lodging—Motels, Hotels	65 dBA

18 City of Sacramento. 2015. *Sacramento 2035 General Plan.* Adopted March 3, 2015.

TABLE 4.8-7
EXTERIOR NOISE COMPATIBILITY STANDARDS FOR VARIOUS LAND USES

Land Use Type	Highest Level of Noise Exposure that is Regarded as "Normally Acceptable"[a] (L_{dn}[b] or CNEL[c])
Schools, Libraries, Churches, Hospitals, Nursing Homes	70 dBA
Auditoriums, Concert Halls, Amphitheaters	Mitigation based on site-specific study
Sports Arena, Outdoor Spectator Sports	Mitigation based on site-specific study
Playgrounds, Neighborhood Parks	70 dBA
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75 dBA
Office Buildings—Business, Commercial and Professional	70 dBA
Industrial, Manufacturing, Utilities, Agriculture	75 dBA

NOTES: CNEL = community noise equivalent level; dBA = A-weighted decibels; L_{dn} = day/night average sound level
a As defined in the *State of California General Plan Guidelines*, "Normally Acceptable" means that the "specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements."
b L_{dn} or Day Night Average Level is an average 24-hour noise measurement that factors in day and night noise levels.
c CNEL or Community Noise Equivalent Level measurements are a weighted average of sound levels gathered throughout a 24-hour period.
d dBA or A-weighted decibel scale is a measurement of noise levels.
e The exterior noise standard for the residential area west of McClellan Airport known as McClellan Heights/Parker Homes is 65 dBA.
f With land use designations of Central Business District, Urban Neighborhood (Low, Medium, or High) Urban Center (Low or High), Urban Corridor (Low or High).
g All mixed-use projects located anywhere in the city of Sacramento.

SOURCE: City of Sacramento. 2015. *Sacramento 2035 General Plan***.** Adopted March 3, 2015. Page 2-350.

Policy EC 3.1.2: Exterior Incremental Noise Standards. The City shall require noise mitigation for all development that increases existing noise levels by more than the allowable increment shown in **Table 4.8-8** (Table EC 2 in the General Plan), to the extent feasible.

TABLE 4.8-8
EXTERIOR INCREMENTAL NOISE IMPACT STANDARDS FOR NOISE-SENSITIVE USES (DBA)

Residences and Buildings where People Normally Sleep[a]		Institutional Land Uses with Primarily Daytime and Evening Uses[b]	
Existing L_{dn}	Allowable Noise Increment	Existing Peak-Hour L_{eq}	Allowable Noise Increment
45	8	45	12
50	5	50	9
55	3	55	6
60	2	60	5
65	1	65	3
70	1	70	3
75	0	75	1
80	0	80	0

NOTES: dBA = A-weighted decibels; L_{dn} = day/night average sound level; L_{eq} = equivalent continuous sound level
a This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.
b This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material.

SOURCE: City of Sacramento. 2015. *Sacramento 2035 General Plan***.** Adopted March 3, 2015. Page 2-351.

Policy EC 3.1.3: Interior Noise Standards. The City shall require new development to include noise mitigation to assure acceptable interior noise levels appropriate to the land use type: 45 dBA L_{dn} (with windows closed) for residential, transient lodgings, hospitals, nursing homes, and other uses where people normally sleep; and 45 dBA L_{eq} (peak hour with windows closed) for office buildings and similar uses.

Policy EC 3.1.4: Interior Noise Standards. Interior Noise Review for Multiple, Loud Short-Term Events. In cases where new development is proposed in areas subject to frequent, high-noise events (such as aircraft over-flights, or train and truck pass-by events), the City shall evaluate noise impacts on any sensitive receptors from such events when considering whether to approve the development proposal, taking into account potential for sleep disturbance, undue annoyance, and interruption in conversation, to ensure that the proposed development is compatible within the context of its surroundings.

Policy EC 3.1.5: Interior Vibration Standards. The City shall require construction projects anticipated to generate a significant amount of vibration to ensure acceptable interior vibration levels at nearby residential and commercial uses based on the current City or Federal Transit Administration (FTA) criteria.

Policy EC 3.1.6: Effects of Vibration. The City shall consider potential effects of vibration when reviewing new residential and commercial projects that are proposed in the vicinity of rail lines or light rail lines.

Policy EC 3.1.7: Vibration. The City shall require an assessment of the damage potential of vibration-induced construction activities, highways, and rail lines in close proximity to historic buildings and archaeological sites and require all feasible measures be implemented to ensure no damage would occur.

Policy EC 3.1.8: Operational Noise. The City shall require mixed-use, commercial, and industrial projects to mitigate operational noise impacts to adjoining sensitive uses when operational noise thresholds are exceeded.

Policy EC 3.1.9: Compatibility with Park and Recreation Uses. The City shall limit the hours of operation for parks and active recreation areas in residential areas to minimize disturbance to residences.

Policy EC 3.1.10: Construction Noise. The City shall require development projects subject to discretionary approval to assess potential construction noise impacts on nearby sensitive uses and to minimize impacts on these uses, to the extent feasible.

Sacramento City Code (Noise Control Ordinance)

The Sacramento City Code includes noise regulations in Title 8–Health and Safety, Chapter 8.68–Noise Control (referred to generally as the Noise Control Ordinance). Of the regulations in Chapter 8.68, the following regulations would be applicable to the proposed project:

- Section 8.68.080 exempts certain activities from standards in Chapter 8.68, including "noise sources due to the erection (including excavation), demolition, alteration, or repair of any building or structure" as long as these activities occur only between 7:00 a.m. and 6:00 p.m. Monday through Saturday, and between 9:00 a.m. and 6:00 p.m. on Sunday. The use of exhaust and intake silencers for internal combustion engines is also required. The director of building inspections may permit work to be done during the hours not exempt by this subsection in the case of urgent necessity and in the interest of public health and welfare for a

period not to exceed three days. Application for this exemption may be made in conjunction with the application for the work permit or during progress of the work. Section 8.68.080 also exempts noise from any mechanical device, apparatus, or equipment related to or connected with emergency activities or emergency work from Chapter 8.68 requirements.

- Section 8.68.060 sets standards for cumulative exterior noise levels at residential and agricultural properties, including exterior noise standards of 55 dBA from 7:00 a.m. to 10:00 p.m., and 50 dBA from 10:00 p.m. to 7:00 a.m. Per Section 8.68.060(b), the allowable decibel increases above the exterior noise standards in any one hour are:

  1. 0 dB for cumulative period of 30 minutes per hour.
  2. 5 dB for cumulative period of 15 minutes per hour.
  3. 10 dB for cumulative period of five minutes per hour.
  4. 15 dB for cumulative period of one minute per hour.
  5. 20 dB not to be exceeded for any time per hour.

  In addition, per Section 8.68.060(c), each of the noise limits above shall be reduced by 5 dB for impulsive or simple tone noises, or for noises consisting of speech or music. If the ambient noise level exceeds that permitted by any of the first four noise limit categories specified in subsection (b) above, the allowable noise limit shall be increased in 5 dB increments in each category to encompass the ambient noise level. If the ambient noise level exceeds the fifth noise level category, the maximum ambient noise level shall be the noise limit for that category.

- Section 8.6.130 sets noise standards for waste disposal vehicles. According to Section 8.68.130, "it is unlawful for any person authorized to engage in waste disposal service or garbage collection to operate any truck-mounted waste or garbage loading and/or composting equipment or similar mechanical device in any manner so as to create any noise exceeding the following level, when measured at a distance of fifty (50) feet from the equipment or any agricultural or residential property."

  A. New equipment purchased or leased on or after a date six months from the effective date of this chapter shall not exceed a noise level of eighty (80) dBA.

  B. New equipment purchased or leased on or after forty-two (42) months from the effective date of this chapter shall not exceed a noise level of seventy-five (75) dBA.

  C. Present equipment shall not exceed a noise level of eighty (80) dBA on or after five years from the effective date of this chapter.

Additionally, Section 17.228.114 establishes conditional use permit requirements for heliports and helistops. Subsection 17.228.114 (E) limits these requirements for rooftop emergency facilities, emergency medical services helicopter landing areas, temporary helicopter landing sites, and emergency use facilities that are only subject to compliance with chapter 12.92 and the state regulations identified in subsection D. (Ord. 2013-0020, Section 1; Ord. 2013-0007, Section 1.)

Section 12.92.040 establishes elevated heliports and rooftop emergency facilities building construction standards:

A. The touchdown and lift off area (TLOF) and any TLOF supporting structures of elevated heliports and rooftop emergency facilities shall be subject to and conform with the construction standards contained in the state regulations, including, but not limited to, AC [Advisory Circular] 150/5390-2B Chapter 8.

B. The TLOF and any TLOF supporting structures of elevated heliports and rooftop emergency facilities shall be subject to and conform with the surface characteristics standards contained in the state regulations, including, but not limited to, AC 150/5390-2B Chapters 2 and 4. (Ord. 2006-023, Section 1)

4.8.3 Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, impacts related to noise and/or groundborne vibration may be considered significant if implementation of the proposed project would:

- Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan, noise ordinance, or applicable standards of other agencies;
- Generate excessive groundborne vibration or groundborne noise levels; or
- Expose people residing or working in the project area to excessive noise levels for a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport.

Methodology and Assumptions

This noise impact analysis evaluates all of the following:

- Temporary noise increases from construction activities associated with development proposed by the proposed Innovation Park PUD, including the CNU Medical Center.
- Operational noise generated by noise-generating equipment (e.g., heating, ventilation, and air conditioning [HVAC] condensers, ventilation fans) at uses developed under the proposed Innovation Park PUD and at the CNU Medical Center.
- Increases in traffic noise associated with changes in traffic volumes and patterns as a result of development allowed under proposed Innovation Park PUD, including the CNU Medical Center.
- Increases in noise resulting from the sirens of emergency vehicles driving to the hospital and trauma center.
- Increases in noise resulting from the proposed helistop.
- Exposure of new sensitive receptors introduced by the proposed project to excessive noise.

Each impact statement contains a distinct subheading, as appropriate, to address the project-level impacts associated with the CNU Medical Center.

To assess potential short-term construction noise impacts, sensitive receptors in the project vicinity were identified. Construction noise levels were estimated based on equipment noise data published by the Federal Highway Administration (FHWA) and the distance to nearest noise-sensitive receptors, assuming a conservative attenuation rate of 6 dBA for every doubling of distance. The estimates of construction noise levels do not account for the presence of intervening structures or topography, which could reduce noise levels at receptor locations. Therefore, these estimates represent a conservative estimate of actual construction noise at receptor locations. Estimated noise levels at receptors were compared to the monitored ambient noise levels at these locations. The significance of the impact was determined based on the exterior incremental noise impact standards for various land uses shown in Table 4.8-8.

Construction vibration impacts would be significant if they either would result in levels substantial enough to result in damage to nearby structures or buildings, or would result in vibration levels exceeding FTA's groundborne vibration impact criteria presented in Table 4.8-6. Vibration by construction equipment at residential receptors would be significant if it would exceed 80 VdB, FTA's threshold for residences for infrequent events. Typical vibration levels, as published by FTA, for the construction equipment generating the highest levels of vibration were adjusted for distance to the nearest receptors and compared to the impact criteria to determine significance.

The following operational noise issues are evaluated in this section:

- Noise generated by additional traffic generated by all the land uses allowed under the proposed Innovation Park PUD, including the CNU Medical Center.
- Building operations/systems such as generators and air conditioners.
- Compatibility of potential future noise-sensitive uses with the City of Sacramento's *Land Use Compatibility Guidelines for Community Noise*.

Traffic noise modeling to address the effects of the traffic generated by development allowed under the proposed Innovation Park PUD on roadside noise levels (project and cumulative, under Impact 4.8-3 and Impact 4.8-9, respectively) was completed using algorithms based on the FHWA Traffic Noise Model. The significance of project traffic noise impacts was determined by comparing the increase in noise levels (traffic contribution only) over existing noise levels to the City of Sacramento's exterior incremental noise impact standards shown in Table 4.8-8. Impacts of other operational noise sources were evaluated qualitatively by comparing typical noise levels generated from these activities to Sacramento 2035 General Plan's exterior noise compatibility standards shown in Table 4.8-7.

For emergency operations of the proposed CNU Medical Center, this analysis used study data to determine whether the project may increase the occurrences of off-site residential receptors being awakened by sirens from emergency vehicles driving to the hospital and trauma center. Additionally, noise-related impacts of the proposed helistop were assessed in the Helicopter Technical Memorandum (ESA 2021), included as **Appendix G**. Helicopter noise contours were

prepared using the Federal Aviation Administration's Aviation Environmental Design Tool. These data were then used to determine whether off-site residents would be exposed to helicopter-generated noise that would surpass a sleep disturbance threshold. Exposure to 65 dB SENEL would result in a chance of sleep disturbance of less than 5 percent.

Impacts and Mitigation Measures

Construction Impacts

Impact 4.8-1: Construction activities for the proposed project would result in substantial temporary or periodic increases in ambient noise levels in the area.

Innovation Park PUD

Noise from Overall Construction Activities

As detailed in Chapter 2, *Project Description*, development under the proposed Innovation Park PUD would involve the demolition of the existing Sleep Train Arena building and former Sacramento Kings practice facility and the construction of up to 2,017 residential units and approximately 1.18 million square feet of commercial space over the 183.3-acre site. Construction of projects included in the proposed Innovation Park PUD would be developed based on economic and market conditions.

Construction, though typically short-term, can be a significant source of noise. The effect of construction noise is greatest when the work takes place near sensitive land uses, during the noise-sensitive evening and nighttime hours, or over an extended period of time. Local governments typically regulate noise from construction equipment and activities by enforcing noise ordinance standards, implementing general plan policies, and imposing conditions of approval for building or grading permits. **Table 4.8-9** shows typical noise levels associated with various types of construction equipment.

TABLE 4.8-9
TYPICAL MAXIMUM NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

Construction Equipment	Noise Level (dBA, L_{eq} at 50 feet)
Backhoe	80
Air Compressor	80
Dozer	85
Mobile Crane	83
Grader	85
Front-End Loader	80
Truck	84
Crane	83
Pile Driver (Impact)	101

NOTES: dBA = A-weighted decibels; L_{eq} = equivalent continuous sound level

SOURCE: Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. September 2018. Available: https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/noise-and-vibration.

Demolition and construction activities would temporarily increase ambient noise levels in the project area and vicinity over the duration of construction. Construction activities would be temporary and intermittent, occurring in different parts of the project area based on the locations and timing of individual projects developed under the proposed Innovation Park PUD. Construction-related noise levels would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment. The effect of construction noise would depend on the phase of construction, construction activity level on a given day, noise generated by that activity, distance between construction activities and the nearest noise-sensitive uses, presence or absence of barriers between the noise and the receptor, and existing noise levels at the receptors.

The dominant noise source among construction equipment is usually a diesel engine. One type of stationary equipment generates noise in one general area and includes items such as pumps, generators, and compressors. These types of equipment operate at a constant noise level under normal operation and are classified as *non-impact equipment*. Other types of stationary equipment, such as pile drivers, jackhammers, and pavement breakers, produce variable and sporadic noise levels and often produce impact-type noises. *Impact equipment* is equipment that generates *impulsive noise*, defined as noise of short duration (generally less than one second), high intensity, abrupt onset, rapid decay, and often rapidly changing spectral composition. For impact equipment, the noise is produced by the impact of a mass on a surface, typically repeating over time. Mobile equipment such as dozers, scrapers, and graders may operate with power applied in a cyclical fashion, in which a period of full power is followed by a period of reduced power. Other equipment such as compressors, though generally considered stationary when operating, can be readily relocated to another location for the next operation.

As detailed previously, Section 8.68.080 of the Sacramento City Code exempts certain activities from compliance with standards in the Noise Control Ordinance, including "noise sources due to the erection (including excavation), demolition, alteration, or repair of any building or structure," as long as these activities occur only between 7:00 a.m. and 6:00 p.m. Monday through Saturday and between 9:00 a.m. and 6:00 p.m. on Sunday, and the activities use exhaust and intake silencers for internal combustion engines. All construction activities for the proposed project would be required to comply with these construction-hour restrictions as a condition of approval for building permits.

The study area for the evaluation of construction-related noise and vibration impacts encompasses the project area and the nearest potentially affected sensitive receptors to the site. Non-impact construction equipment could generate noise levels as high as 88 dBA L_{max} at 50 feet; if pile driving or other impact activities are required, construction noise levels could reach up to 101 dBA L_{max} at 50 feet (Table 4.8-9). Impacts from pile driving can result both from elevated single-event or "impact" noise levels and from vibration. Construction noise generally attenuates at a rate of 6.0 to 7.5 dBA per doubling of distance.

Residential uses are considered most sensitive to noise; because people spend extended amounts of time at home, the chances of exposure to noise are high. Residential uses are located as close as 100 feet from the western and southern boundaries of the project area. Operation of common

heavy-duty construction equipment along the boundaries of the project area could cause these receptors to experience intermittent noise levels of up to 82 dBA L_{max}. As a worst-case scenario, assuming that pile driving equipment would operate at the boundary of the project area, these receptors would intermittently experience noise levels of up to 95 dBA L_{max}. Attenuated construction noise levels at the receptors would be well above the existing ambient noise levels of 61.2 and 61.3 dBA as monitored in the vicinity of nearest receptors to the western and southern boundaries of the project area. The temporary increase in construction noise levels would exceed the exterior incremental noise impact standards shown in Table 4.8-8 for residential uses, and therefore, would lead to a significant impact.

In addition to noise impacts on existing receptors surrounding the area, as development allowed under the first few phases of proposed project is finished, the occupants of sensitive uses introduced to the area during the earlier construction phases would be subject to increased noise levels from the construction activities associated with later phases of development. Although the exact phasing of development of all phases under the proposed project is not known at this point, when construction takes place in the vicinity of newly introduced on-site sensitive receptors in the project area, these receptors could temporarily and intermittently experience maximum noise levels as high as 88 dBA L_{max} from non-impact construction equipment and 101 dBA L_{max} from pile driving occurring during later phases of construction.

Therefore, although construction activities would comply with construction-hour limitations set forth in the City's Noise Ordinance, because the increase in noise levels over existing ambient levels would exceed the exterior incremental noise impact standards in Table 4.8-8, the impact of construction noise on nearby sensitive receptors would be a short-term **significant** impact.

Construction Noise from Arena Implosion

Implosion of the existing Sleep Train Arena building as part of the proposed project is being considered as an option to conventional demolition. *Implosion* is a process of controlled demolition of structures and buildings, in which explosive material is strategically placed within the structure and detonation is timed such that the structure collapses onto itself in a matter of seconds, minimizing physical damage to its immediate surroundings. The primary advantage of implosion is that it reduces to seconds a process that could take weeks, months, or years to achieve by other methods, thereby reducing the duration of impacts from demolition activities. Implosion is typically used in urban areas where the structures to be demolished are closely surrounded by other buildings. Implosions can be carefully planned and managed so that the structure collapses onto its own footprint, thereby reducing impacts on the surrounding area. Upon completion of implosion, a pile of rubble is left behind on the structure's footprint and is hauled away as with conventional demolition.

Noise during implosion includes noise from the detonation of explosives and the noise from the structure collapsing. While construction blasting results in noise levels of 94 dBA,[19] implosions

[19] Federal Highway Administration. 2017. *Construction Noise Handbook*, 9.0, Construction Equipment Noise Levels and Ranges, Table 9.1, RCNM Default Noise Emission Reference Levels and Usage Factors, updated August 24, 2017. Available: http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm. Accessed November 15, 2019.

also generate noise from the subsequent collapse of the structure. Although the process could take less than 60 seconds, noise levels generated during implosion could be as high as 130 dBA depending on the number and strength of explosives used and the size of the building. As an example, implosion of the 12-story Draper Tower in Nashville, Tennessee, generated noise levels in the 130 dB range.[20] During implosions, noise impacts on workers and nearby receptors are minimized primarily by maintaining an adequate exclusion zone around the structure.

Because of the location of the Sleep Train Arena building in the middle of the project area, the surrounding parking areas provide a minimum separation of 1,000 feet from the nearest sensitive receptors to the west, which would help reduce noise and vibration impacts on receptors and buildings. Instantaneous noise levels at the nearest receptors during implosion could still be as high as 105 dBA,[21] which, given the brevity of the event, would be an exposure similar to that of an observer of a fireworks display or local thunderclap; however, reduction of noise exposure would rely on maintenance of an exclusion area. Without such measures, the noise impact from implosion of the arena building on nearby sensitive receptors would be a **significant** short-term impact. Therefore, Mitigation Measure 4.8-1(b), presented below, has been identified to ensure that an exclusion zone is maintained.

CNU Medical Center

Construction of the CNU Medical Center would be completed in three phases and would culminate in a completed new medical center and university campus with associated support buildings. The entire planned campus would consist of 24 buildings divided into four distinct zones.

The first phase of construction would include the hospital, one central utility plant building a medical office building, a university building, and a pharmaceutical building. These construction activities would occur between 2022 and 2026.

The second construction phase would include internal build out of an east patient tower shell for the hospital building, an ambulatory care building, two retail/parking structures, a second university building, a second pharmaceutical building, a dormitory, a faculty building, a laboratory building, a daycare facility, and a second central utility plant. Phase 2 would ultimately be constructed based on economic and market conditions, but is expected to be completed by 2032.

The third construction phase would include a third retail/parking structure, a third university building, a second dormitory, a second faculty building, an expansion of the daycare facility, a senior living building, a third central utility plant, and a sports/parking structure. Phase 3 would ultimately be constructed based on economic and market conditions, but is expected to be completed by 2032.

Currently, there is no geotechnical study completed that recommends the type of supporting foundation for the proposed CNU Medical Center, which would have buildings ranging from single-

[20] *Tennessean*. 2018. Lifeway Building Implosion: 8 Things to Know. Published on January 4, 2018; updated on January 6, 2018. Available: https://www.tennessean.com/story/news/2018/01/04/lifeway-building-nashville-implosion-what-you-should-know/1003569001/.

[21] OSHA regulations require hearing conservation plans for worker exposures of 105 dB for one hour or more. Therefore, a 60-second exposure to 105 dB would be within an acceptable health and safety limit.

story utility plants to the 14-story hospital tower. Consequently, it is assumed that the potential exists for piles to be required and for impact pile driving as a potential construction activity.

The Bella Rose Villas condominiums are located approximately 100 feet southwest of the proposed faculty and student housing zone where five-story dormitories and three-story faculty housing would be constructed and approximately 400 feet from the proposed hospital building. The Ashton Parc Apartments are located approximately 100 feet south of the Research/Lab zone to be constructed during Phase 2.

A quantitative analysis of construction noise levels was conducted using FTA's general assessment methodology. FTA's general approach to construction noise assessment recommends assessing concurrent operation of the two noisiest pieces of construction equipment at the center of the project site.[22] **Table 4.8-10** presents the predicted construction noise levels, assuming that pile driving would be required for construction of the hospital and that standard construction equipment would be used for construction of the student housing. As shown, potential pile driving activities for the CNU Medical Center's hospital could cause the nearest receptors to experience intermittent noise levels of up to 76 dBA, while standard heavy-duty construction activities for the student housing complex could cause the nearest receptors to experience intermittent noise levels of up to 77 dBA (Table 4.8-10). Attenuated construction noise levels at the receptors would be well above the existing daytime ambient noise levels of 54 and 51 dBA as monitored at the vicinity of nearest receptors. The temporary increase in construction noise levels associated with pile driving for hospital construction and subsequent construction of student housing would exceed the exterior incremental noise impact standards shown in Table 4.8-8 for residential uses, and therefore would lead to a **significant** construction noise impact.

TABLE 4.8-10
DAYTIME NOISE LEVELS FROM CONSTRUCTION

Receptor	Existing Daytime Noise Level (dBA, L_{eq})[a]	Loudest Two Noise Sources	Reference Noise Level (dBA)[a]	Distance to Receptor (feet)[b]	Usage Factor	Adjusted L_{eq} Level (dBA)[c]	Existing + Construction Noise Resultant Noise Level (dBA)	Exceeds Noise Impact Standard?
Student Housing Construction (Project Phases 2 and 3)								
Bella Rose Villas condominiums	54	Grader/Dozer	85/82	100	40/40%	77	77	Yes
Hospital Pile Driving (Project Phase 1)								
Bella Rose Villas condominiums	54	Pile Driver/ Crane	101/81	400	16/20%	76	76	Yes

NOTES: dBA = A-weighted decibels; L_{eq} = equivalent continuous sound level

[a] L_{max} (the instantaneous maximum noise level for a specified period of time) at 50 feet. Some values are from Federal Highway Administration measurements; others are from specifications.

[b] Distance between approximate location of equipment and property line of sensitive receptor.

[c] L_{eq} level as adjusted for distance and percentage of usage.

SOURCE: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018; data compiled by Environmental Science Associates in 2021

[22] Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. September 2018. Available: https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/noise-and-vibration.

Construction of the hospital building and other structures may occur during nighttime hours. Specifically, for certain activities, such as continuous concrete pours or crane erection, it may be necessary to conduct construction activities at night, either because of the technical needs of the construction operation (e.g., large concrete pours), or in order to avoid disruption to the local circulation network (when traffic on surrounding roads is reduced compared with the daytime hours). Section 8.68.080 of the Sacramento City Code exempts certain activities from compliance with the standards in Chapter 8.68 (the Noise Control Ordinance), including "noise sources due to the erection (including excavation), demolition, alteration, or repair of any building or structure," as long as these activities occur only between 7:00 a.m. and 6:00 p.m. Monday through Saturday and between 9:00 a.m. and 6:00 p.m. on Sunday. However, if the work is of urgent necessity and in the interest of public health and welfare, construction work can occur outside of the designated hours for a period not to exceed three days. Because concrete pours and crane erection activities are generally completed within a three-day window, such activities would likely fall under this exemption.

Mitigation Measures

Mitigation Measure 4.8-1(a): Prepare and Implement Construction Noise Reduction Plan (PUD, CNU).

Applicants for individual projects proposed under the Innovation Park PUD shall require construction and demolition contractors to prepare and implement a construction noise reduction plan, to be included in all grading, demolition, and construction plans, that implements the following construction noise reduction measures during demolition, grading, and construction activities. These plans shall be submitted to the City of Sacramento Community Development Department to be included either as Conditions of Approval (COA) or in a Mitigation Monitoring and Reporting Program (MMRP):

1. Consistent with Section 8.68.080 of the City of Sacramento Noise Control Ordinance, demolition and construction activities shall occur only between 7:00 a.m. and 6:00 p.m. Monday through Saturday and between 9:00 a.m. and 6:00 p.m. on Sundays.

2. Any demolition or construction activity proposed to occur outside of the designated hours listed above shall be evaluated on a case-by-case basis and shall only be allowed with the prior written authorization of the City's Building Services Division. Such activities shall not exceed a period of three days.

3. All equipment and trucks used for demolition and construction shall be equipped with the best available noise control techniques (e.g., improved mufflers, redesigned equipment, intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds).

4. Impact tools (e.g., jackhammers, pavement breakers, and rock drills) used for demolition and construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where the use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible; this could achieve a reduction of 5 dBA.

5. Stationary noise sources shall be located as far from adjacent receptors as possible and shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or include other measures.

6. Temporary noise barriers or shielding shall be erected for construction work involving heavy-duty construction equipment if the other noise reduction methods are not effective or possible and if occurring within 300 feet of receptors for an extended period of time (more than two weeks).

7. Advance notice shall be provided to all noise sensitive receptors located within 300 feet of demolition and construction activities by mail at least fourteen days before the beginning of construction activity. Notice will include the approximate start date and duration of construction activities.

8. Noise-reducing pile installation techniques shall be employed during construction for projects requiring installation of piles. These techniques shall include:

    - Installing cast-in-place concrete piles. Noise from auger drilling is 17 dBA less than noise from an impact pile driver.

    - Vibrating piles into place and installing shrouds around the pile-driving hammer where feasible.

    - Installing intake and exhaust mufflers on pile-driving equipment.

    - Implementing "quiet" pile-driving technology (such as pre-drilling piles and using more than one pile driver to shorten the total duration of pile driving).

    - Using cushion blocks to dampen impact noise. Cushion blocks are blocks of material that are used with impact hammer pile drivers. They consist of blocks of material placed atop a piling during installation to minimize noise generated when driving the pile. Materials typically used for cushion blocks include wood, nylon, and micarta (a composite material).

Mitigation Measure 4.8-1(b): Implement Measures to Reduce Noise Impacts from Arena Implosion (PUD, CNU).

If implosion is chosen as the method for demolishing the Sleep Train Arena building, the construction noise reduction plan discussed in Mitigation Measure 4.8-1(a) shall include measures to reduce noise impacts from implosion on receptors in the vicinity. Measures shall include but not be limited to the following:

1. A detailed project-specific study shall be conducted that assesses the impacts of imploding the arena, including safety, air quality, noise, vibration, and seismic impacts, based on the size of the arena and the amount of explosives used. An independent third-party engineering consultant that specializes in seismic monitoring shall measure ground vibration levels on the day of the event to verify that the implosion goes as planned.

2. An adequate exclusion zone around the arena, as determined by the project-specific feasibility study mentioned above, shall be demarked and maintained for as long as safety requirements warrant before and after the implosion.

3. All land uses within the exclusion zone shall be notified by mail 30 days in advance of the planned implosion, with reminders sent out a week before. Notifications shall include the date and time of the planned implosion, the extent of the exclusion zone, information on street closures, and the amount of time the exclusion zone and street closures will be maintained. Occupants of land uses within the exclusion zone shall be advised to stay indoors with windows and doors closed for the duration of the implosion.

4. The same information shall also be posted as signs around the project area boundary, along with the name and telephone number of a complaint coordinator to contact with questions and complaints.

5. Transportation and temporary relocation to a to-be-determined site shall be provided to sensitive receptors located within 0.25 miles of the arena building. Sensitive receptors will be returned to their original locations following completion of the planned implosion.

Significance After Mitigation: Implementation of Mitigation Measure 4.8-1(a) would reduce noise impacts on existing nearby and future sensitive receptors because exposure would generally be limited to the less noise-sensitive daytime hours, noise control devices would be used on all construction equipment, and best management practices would be used to separate noise sources from receptors to allow for increased attenuation. This impact would be reduced to a **less-than-significant** level. No mitigation measures are available to reduce the noise generated by implosion. Because the event would be extremely short, typically lasting less than a minute, implementation of Mitigation Measure 4.8-1(b) focuses on reducing the exposure of receptors to the noise generated. Even though the noise generated by implosion would be markedly brief, maintenance of the exclusion zone where no receptors would be allowed would reduce exposure to noise levels to within the time duration limits established by OSHA for the protection of health and safety. Therefore, any residual impact beyond the exclusion zone would be reduced to a **less-than-significant** level.

Impact 4.8-2: Construction activities for the proposed project could expose persons to or generate excessive groundborne noise or groundborne vibration levels.

Innovation Park PUD

Groundborne Noise or Vibration from Overall Construction Activities

Demolition and construction activities in the project area could generate substantial temporary groundborne vibration (e.g., from pile driving) exceeding standard vibration thresholds in the vicinity, which could interfere with normal activities or cause damage to adjacent structures.

Depending on the type of construction equipment used, groundborne vibrations can be perceptible within 30–100 feet of a source. The potential use of pile driving can be expected to generate the highest vibration levels during construction. Vibration levels would vary depending on soil conditions, construction methods, and equipment used. Heavy-duty construction equipment typically generates vibration levels of 94 VdB (or 0.21 in/sec PPV) at 25 feet, while impact pile driving typically generates vibration levels of 104 VdB (or 0.65 in/sec PPV) at a distance of

25 feet.[23] Groundborne vibration typically drops off at a rate of 9 VdB per doubling of distance. The nearest receptors located 100 feet west and south of the project area would experience vibration levels of 76 VdB from heavy-duty construction equipment, which is below the significance threshold of 80 VdB. However, these same receptors would experience vibration levels of 86 VdB during pile driving activities, which is above the significance threshold of 80 VdB.

This represents a worst-case analysis that assumes pile driving activity would take place at the boundary of the project area closest to existing sensitive receptors. Nevertheless, this impact would be considered significant at existing receptors in the vicinity of the project site. Because the project area would be developed in phases, vibration impacts could also occur when heavy-duty construction equipment is operated or pile driving in later phases occurs near future proposed buildings constructed in the first few phases. For this reason, the impact of groundborne noise on nearby sensitive receptors caused by vibration would be a short-term **significant** impact.

Groundborne Noise or Vibration from Arena Implosion

If implosion is chosen as the method to demolish the existing Sleep Train Arena building, the event would be designed to minimize vibration. Because the arena is located in the center of the project area, the nearest receptors are at least 1,000 feet away. Vibration from the collapse of the structure may be noticeable at these receptors, but no property damage is expected. As discussed under Impact 4.8-1, vibration impacts resulting in human annoyance would be reduced primarily by maintaining an exclusion area around the arena for this short-term event. Implosions have been successfully conducted in urban areas with adjacent structures near other structures (less than 100 feet away). In this case, there is a separation of 1,000 feet (approximately 38 VdB drop-off from the source level) between the arena to be imploded and the nearest structures, which would provide ample distance to reduce the risk of any vibration damage to adjacent properties. Nevertheless, as a conservative conclusion, because vibration depends on project-specific and site-specific conditions, this would be a short-term **significant** impact.

CNU Medical Center

Like construction in the Innovation Park PUD as a whole, construction of the CNU Medical Center would include the potential use of pile driving, which could be expected to generate the highest vibration levels of the construction period. The nearest receptors, located 100 feet west and south of the CNU Medical Center site, would experience vibration levels of 76 VdB from heavy-duty construction equipment, which is below the significance threshold of 80 VdB. However, these same receptors could experience vibration levels of 86 VdB during pile driving activities, which is above the significance threshold of 80 VdB.

This represents a worst-case analysis that assumes pile driving activity would take place at the boundary of the CMU Medical Center site closest to existing sensitive receptors. Nevertheless, this impact would be considered significant at existing off-site receptors. Because the CNU Medical Center would be developed in phases, vibration impacts could also occur when heavy-duty construction equipment is operated or pile driving occurs near occupied dormitories or

[23] California Department of Transportation. 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. September 2013.

faculty buildings constructed during the earlier phases. For this reason, the impact of groundborne noise on nearby sensitive receptors caused by vibration would be a short-term **significant** impact.

Mitigation Measure

Mitigation Measure 4.8-1(b): Implement Measures to Reduce Noise Impacts from Arena Implosion.

See Impact 4.8-1, above, for the text of this mitigation measure.

Mitigation Measure 4.8-2: Prepare and Implement Construction Vibration Management Plan (PUD, CNU).

Before any extreme vibration-generating construction activities (e.g., impact pile driving, vibratory pile driving, and other activities generating vibration greater than 90 VdB), CNU and future developers under the PUD shall submit a construction vibration management plan prepared by a qualified acoustical consultant for City review and approval by the City of Sacramento Community Development Department that contains a set of site-specific attenuation measures or engineering alternatives to reduce construction impacts associated with extreme vibration generating activities to 80 vdB or less at the nearest residences or sensitive receptors. CNU shall require its construction contractor(s) to implement the approved plan during construction. Potential measures include, but are not limited to, the following:

1. Implementing "alternative" pile installation technology that also reduces vibration (such as pre-drilling of piles), where feasible, in consideration of geotechnical and structural requirements and conditions.

2 Installing cast-in-place concrete piles.

3. Vibrating piles into place where feasible.

4. Notifying property owners and occupants located within 300 feet of the construction activities at least 14 calendar days before the start of extreme noise- and vibration-generating activities. Before providing the notice, CNU shall submit to the City of Sacramento Community Development Department for review and approval a list of the proposed type and duration of extreme noise- and vibration-generating activities and the proposed public notice. The public notice shall provide the estimated start and end dates of the extreme noise- and vibration-generating activities and describe the attenuation measures to be implemented.

Significance After Mitigation: Implementation of Mitigation Measure 4.8-1(b) would primarily reduce vibration impacts on nearby receptors during implosion by reducing exposure. Even though vibration generated by implosion would be markedly brief, maintenance of the exclusion zone would reduce vibration levels through attenuation with distance, such that exposure and any residual impact beyond the exclusion zone would be reduced to a **less-than-significant** level. Implementation of Mitigation Measure 4.8-2 would reduce impacts on existing nearby and future sensitive receptors from extreme vibration-generating construction activities such as pile driving and drilling by requiring the use of alternative methods that reduce noise and vibration to achieve a performance standard of 80 VdB at the nearest residences or similar sensitive receptors., and by keeping the receptors notified of the time, duration, and location of these activities. This impact would be reduced to a **less-than-significant** level.

Operational Impacts

Impact 4.8-3: The increase in traffic associated with development allowed under the proposed project would increase roadside noise levels in the area.

Innovation Park PUD and CNU Medical Center

Overall Traffic Noise Effects of Development

Most of the long-term noise that would result from implementation of the proposed Innovation Park PUD, including the CNU Medical Center, would be generated by traffic. Development associated with the proposed project would contribute to an increase in local traffic volumes, resulting in higher traffic noise levels along local roadways. Using algorithms from FHWA's *Traffic Noise Model Technical Manual* and the traffic volumes for the proposed project provided in Section 4.10, *Transportation and Circulation*, traffic noise levels were estimated for roadway segments in and around the project area under Existing and Existing plus Project conditions.

The traffic study analyzed 33 intersections in and around the project area. Roadway segments with no sensitive receptors in the vicinity were first screened out and the remaining intersections were analyzed for traffic noise. **Table 4.8-11** shows the increase in noise levels at analyzed roadway segments. The table shows an increase in noise levels during Existing plus Project conditions relative to existing conditions and compares the increase to the City's exterior incremental noise impact standards for noise-sensitive uses as shown in Table 4.8-8. The incremental noise thresholds are based on the existing traffic noise levels along these roadway segments (also shown in Table 4.8-11).

TABLE 4.8-11
EXISTING AND PROJECTED TRAFFIC NOISE LEVELS ALONG STREETS AFFECTED BY PROJECT TRAFFIC

	Traffic Noise Level from a Distance of 50 Feet from Center of Roadway, dBA, L_{dn}[1]				
Roadway Segment	**Existing (A)**	**Existing plus Project (B)**	**Incremental Increase (B-A)**	**Incremental Thresholds[2]**	**Significant? (Yes or No)[2]**
Del Paso Road					
East of intersection with El Centro Road	68.7	69.1	0.4	1	No
West of intersection with El Centro Road	65.8	70.7	4.9	1	**Yes**
El Centro Road					
North of intersection with Del Paso Road	64.5	65.0	0.5	2	No
South of intersection with Del Paso Road	66.5	66.7	0.2	1	No

TABLE 4.8-11
EXISTING AND PROJECTED TRAFFIC NOISE LEVELS ALONG STREETS AFFECTED BY PROJECT TRAFFIC

Roadway Segment	Traffic Noise Level from a Distance of 50 Feet from Center of Roadway, dBA, L_{dn}[1]				
	Existing (A)	Existing plus Project (B)	Incremental Increase (B-A)	Incremental Thresholds[2]	Significant? (Yes or No)[2]
Del Paso Road					
East of intersection with Natomas Blvd./Truxel Road	68.9	69.5	0.6	1	No
West of intersection with Natomas Blvd./Truxel Road	70.6	70.8	0.2	1	No
Natomas Boulevard/Truxel Road					
North of intersection with Del Paso Road	70.6	71.3	0.7	1	No
South of intersection with Del Paso Road	70.0	71.0	1.0	1	No
West Entrance/Snowy Egret Blvd.					
East of intersection with East Commerce Way	47.1	63.2	16.1	8	**Yes**
East Commerce Way					
North of intersection with West Entrance /Snowy Egret Boulevard	67.4	68.8	1.4	1	**Yes**
South of intersection with West Entrance/Snowy Egret Boulevard	67.4	67.4	0	1	No
Main Entrance					
East of intersection with East Commerce Way	49.8	66.4	16.6	8	**Yes**
East Commerce Way					
North of intersection with Main Entrance	69.8	69.8	0	1	No
South of intersection with Main Entrance	69.8	71.4	1.6	1	**Yes**
KSP Arena Corporate Center Driveway					
East of intersection with East Commerce Way	52.5	52.5	0	5	No
West of intersection with East Commerce Way	–	65.8	–	–	–
East Commerce Way					
North of intersection with KSP Arena Corporate Center Driveway	67.7	68.8	1.2	1	**Yes**
South of intersection with KSP Arena Corporate Center Driveway	67.6	68.8	1.2	1	**Yes**
East Entrance/Terracina Drive					
East of intersection with Truxel Road	61.1	61.3	0.2	3	No
West of intersection with Truxel Road	51.1	64.9	13.8	8	**Yes**
Truxel Road					
North of intersection with East Entrance/Terracina Drive	72.7	73.2	0.5	1	No
South of intersection with East Entrance/Terracina Drive	72.8	72.9	0.1	1	No

TABLE 4.8-11
EXISTING AND PROJECTED TRAFFIC NOISE LEVELS ALONG STREETS AFFECTED BY PROJECT TRAFFIC

Roadway Segment	Traffic Noise Level from a Distance of 50 Feet from Center of Roadway, dBA, L_{dn}[1]				
	Existing (A)	Existing plus Project (B)	Incremental Increase (B-A)	Incremental Thresholds[2]	Significant? (Yes or No)[2]
Arena Boulevard					
East of intersection with East Commerce Way	69.6	70.7	1.1	1	**Yes**
West of intersection with East Commerce Way	70.8	72.8	2.0	1	**Yes**
East Commerce Way					
North of intersection with Arena Boulevard	67.6	70.0	2.4	1	**Yes**
South of intersection with Arena Boulevard	60.4	60.4	0	2	No
Arena Boulevard					
East of intersection with Sally Ride Way	69.4	70.5	1.1	1	**Yes**
West of intersection with Sally Ride Way	69.5	70.6	1.1	1	**Yes**
Sally Ride Way					
North of intersection with Arena Boulevard	53.7	55.0	1.4	5	No
South of intersection with Arena Boulevard	55.8	56.7	0.9	3	No
Arena Boulevard					
East of intersection with South Entrance/Innovator Drive	69.1	72.0	2.9	1	**Yes**
West of intersection with South Entrance/Innovator Drive	69.3	70.5	1.2	1	**Yes**
South Entrance/Innovator Drive					
North of intersection with Arena Boulevard	49.6	70.1	20.5	8	**Yes**
South of intersection with Arena Boulevard	62.4	62.5	0.1	2	No
Arena Boulevard					
East of intersection with Truxel Road	68.6	68.6	0	1	No
West of intersection with Truxel Road	69.0	69.0	0	1	No
Truxel Road					
North of intersection with Arena Boulevard	70.1	70.1	0	1	No
South of intersection with Arena Boulevard	70.8	70.8	0	1	No
I-80 EB Ramps					
West of intersection with Truxel Road	68.3	69.6	1.3	1	**Yes**
Truxel Road					
North of intersection with I-80 EB Ramps	72.4	73.3	0.9	1	No
South of intersection with I-80 EB Ramps	71.8	72.3	0.5	1	No

TABLE 4.8-11
EXISTING AND PROJECTED TRAFFIC NOISE LEVELS ALONG STREETS AFFECTED BY PROJECT TRAFFIC

	Traffic Noise Level from a Distance of 50 Feet from Center of Roadway, dBA, L_{dn}[1]				
Roadway Segment	**Existing (A)**	**Existing plus Project (B)**	**Incremental Increase (B-A)**	**Incremental Thresholds[2]**	**Significant? (Yes or No)[2]**
Prosper Road					
East of intersection with Innovator Drive	58.9	58.9	0	3	No
West of intersection with Innovator Drive	57.1	57.1	0	3	No
Innovator Drive					
North of intersection with Prosper Road	61.8	61.8	0	2	No
South of intersection with Prosper Road	61.4	61.4	0	2	No
Prosper Road					
East of intersection with Truxel Road	59.2	58.9	-0.3	3	No
West of intersection with Truxel Road	59.0	59.5	0.5	3	No
Truxel Road					
North of intersection with Prosper Road	70.0	72.1	2.2	1	**Yes**
South of intersection with Prosper Road	70.2	72.2	2.0	1	**Yes**

NOTES: dBA = A-weighted decibels; EB = eastbound; I-80 = Interstate 80; L_{dn} = day/night average sound level

1 Noise levels were determined using algorithms from the Federal Highway Administration's *Traffic Noise Model Technical Manual*.

2 Traffic noise increases at an existing sensitive use exceeding the allowed incremental noise increase provided in Table 4.8-8 would result in a significant impact.

SOURCE: Data compiled by Environmental Science Associates in 2021

As shown in Table 4.8-11, the increase in traffic noise levels associated with development allowed under the proposed project would exceed the applicable incremental exterior noise standards along several roadway segments: Del Paso Road; the Main, East, West, and South Entrances to the project area; East Commerce Way; Arena Boulevard; and Truxel Road.

Additionally, future noise levels associated with traffic generated by development allowed under the proposed project would exceed the normally acceptable 70 dBA L_{dn} threshold for urban residential infill and mixed-use projects along roadway segments forming the boundary of, and leading to, the project area. Although for many of these roadways, the existing noise levels already exceeds the 70 dBA L_{dn} threshold, project traffic could exacerbate this existing impact. Future residential and mixed-use projects that are part of the proposed project located along these roadway segments would also be exposed to exterior noise levels in excess of City standards. This impact would be **significant**.

Effects on On-Site Sensitive Receptors Introduced by Project Development

The City of Sacramento uses exterior noise compatibility standards for various land uses to determine the compatibility of the ambient noise environment for the proposed land uses (see Table 4.8-7). For commercial uses, a noise environment of 70 dBA L_{dn} or less would be considered the normally acceptable level of noise exposure. For residential uses (single-family, duplex, and mobile homes), a noise environment of 60 dBA L_{dn} or less in the rear yards or outdoor activity areas represents the normally acceptable level of noise exposure, while a noise environment of up to 65 dBA L_{dn} at the outdoor common or activity space is considered normally acceptable for multi-family uses. For mixed-use developments, the maximum allowable exterior noise standard would be 70 dBA L_{dn}.

Long-term noise measurements were conducted at two representative locations of the project area where residential, dormitory, and mixed-use developments are proposed (Parcels D and E). The monitored L_{dn} was 61.2 dBA and 61.3 dBA at the two locations. Noise monitoring locations are shown in Figure 4.8-2. Because Parcel E could be developed with either multi-family residences, this analysis analyzes the existing ambient noise environment's compatibility for multi-family uses and the applicable exterior noise standard of 65 dBA. Monitored L_{dn} at the two locations is less than the 65 dBA standard for multi-family residential uses, including university housing and less than the maximum acceptable exterior noise level of 70 dBA L_{dn} for school uses. Therefore, the existing ambient environment would be compatible for the proposed multi-family residential uses within the project area.

As the project area is developed, depending on the order of proposed development, future sensitive receptors (multi-family residential units and a school) introduced by development allowed under the proposed project could be exposed to greater ambient noise levels from the addition of traffic from earlier phases of development. As discussed above, the Innovation Park PUD proposes to locate residential uses on Parcel E toward the south side of the project area, while Parcel C in the western portion of the project area would likely include mixed-use development, including multi-family residential uses. Parcel D would have university housing. **Table 4.8-12** shows future (baseline plus Project) traffic noise levels at 24 roadway segments adjacent to Parcels C, D, and E within and along the boundary of the project area. Because these roadways do not currently exist, there are no existing traffic volume on which to perform a comparative analysis to the with-project scenario. Therefore, the with-project roadside noise levels are compared to the City's exterior noise standard for multi-residential uses. This standard applies to the primary open space areas of townhomes and multi-family apartments or condominiums (private year yards for townhomes; common courtyards, roof gardens, or gathering spaces for multi-family developments) but do not apply to balconies or small attached patios in multistoried multi-family structures.

As shown in Table 4.8-12, future traffic noise levels with project traffic along roadway segments adjacent to the project area that include multi-family residential uses could exceed the normally accepted level of 65 dBA L_{dn}, the City's exterior noise compatibility standard for multi-family uses within 50 feet of the centerline along five of the 24 analyzed roadway segments. However, as discussed previously (see Page 4-8.1), impacts from the existing or future environment on development allowed under the proposed project would not be considered significant under

TABLE 4.8-12
PROJECTED TRAFFIC NOISE LEVELS ALONG STREETS IN THE PROJECT AREA

Roadway Segment[4]	Traffic Noise Level from a Distance of 50 feet from Center of Roadway, dBA, L_{dn}[1]	
	Baseline plus Project	Exceed 65 dBA L_{dn}?[2]
Sports Parkway East		
North of intersection with Terracina Drive/East Entrance	63.4	No
South of intersection with Terracina Drive/East Entrance	63.5	No
Terracina Drive/East Entrance		
East of intersection with Sports Parkway East	60.4	No
West of intersection with Sports Parkway East	60.3	No
Innovator Drive		
North of intersection with Sports Parkway South	68.6	**Yes**
South of intersection with Sports Parkway South	68.9	**Yes**
Sports Parkway South		
East of intersection with Innovator Drive	58.5	No
West of intersection with Innovator Drive	54.1	No
Sports Parkway West		
North of intersection with Main Entrance	62.1	No
South of intersection with Main Entrance	66.4	**Yes**
Main Entrance		
East of intersection with Sports Parkway West	66.3	**Yes**
West of intersection with Sports Parkway West	64.1	No
Sports Parkway West		
North of intersection with West Entrance	54.1	No
South of intersection with West Entrance	64.1	No
West Entrance		
East of intersection with Sports Parkway West	59.4	No
West of intersection with Sports Parkway West	63.3	No
Innovator Drive		
North of intersection with West Entrance	61.4	No
South of intersection with West Entrance	59.4	No
West Entrance		
East of intersection with Innovator Drive	55.4	No
West of intersection with Innovator Drive	60.1	No
Innovator Drive		
North of intersection with Main Entrance/Terracina Drive	63.9	No
South of intersection with Main Entrance/Terracina Drive	63.0	No
Main Entrance/Terracina Drive		
East of intersection with Innovator Drive	65.5	**Yes**
West of intersection with Innovator Drive	61.4	No

TABLE 4.8-12
PROJECTED TRAFFIC NOISE LEVELS ALONG STREETS IN THE PROJECT AREA

NOTES: dBA = A-weighted decibels; L_{dn} = day/night average sound level

[1] Noise levels were determined using algorithms from the Federal Highway Administration's *Traffic Noise Model Technical Manual*.

[2] These values represent the noise level at an assumed distance of 50 feet from the roadway centerline. Proposed residential uses farther than 50 feet away from the centerline would have reduced noise exposure. Future residences that are exposed to future traffic noise above the allowed City of Sacramento of 70 dBA L_{dn} for an infill site would result in a significant impact.

[3] This segment would be adjacent to university housing where the Applicable standard would be 65 dBA L_{dn}

[4] The roadway segments identified in the table are depicted on Figure 4.10-4, Study Area.

SOURCE: Data compiled by Environmental Science Associates in 2021.

CEQA. The City may require measures to attenuate noise from the existing or future environment (e.g., Mitigation Measure 4.8-3), if potentially incompatible uses are proposed in the project area. Such measures would not be considered mitigation for significant impacts but may be required by the City as conditions of approval.

Mitigation Measure

Mitigation Measure 4.8-3: Construct Noise Barriers, Incorporate Noise Reduction Measures at Residences, and Install Traffic Calming Measures (PUD, CNU).

Individual projects proposed under the proposed Innovation Park PUD and the proposed student housing of the CNU shall undergo further review as they are proposed for development. As stated in Section 2.4.3, the proposed Innovation Park PUD requires a site plan and design review process that would ensure that future development projects are consistent with the goals, policies, objectives, and other provisions of the Innovation Park PUD if future traffic noise levels at noise-sensitive land uses along roadway segments would be significantly affected by project traffic, one or more of the following measures shall be considered to maintain an exterior performance standard of 65 dBA for outdoor gathering spaces of multi-family uses:

1. Construct noise barriers (walls and/or berms) to reduce traffic noise levels at noise-sensitive land uses that are found to be significantly affected by traffic noise.

2. For proposed dwelling units that would be exposed to traffic noise levels exceeding 65 dBA L_{dn}, prohibit outdoor living areas such as balconies or decks on the side of the buildings exposed to high traffic noise. Alternatively, noise mitigation measures, such as barrier walls with a minimum height of 5 feet with adequate materials (wood, Plexiglas) with no holes or gaps, along the perimeter of the outdoor living areas can provide necessary noise reductions.

3. For proposed dwelling units that would be exposed to traffic noise levels exceeding 69 dBA CNEL, require building façade upgrades for windows associated with bedrooms and living/family rooms on the side of the buildings exposed to high traffic noise. Examples of such upgrades include using windows with Sound Transmission Class (STC) ratings higher than standard building practice (up to STC-28).

4. Install traffic calming measures along affected low-volume roadways to reduce future traffic speeds.

Significance After Mitigation: Implementation of Mitigation Measure 4.8-3 could reduce future traffic noise levels at noise-sensitive land uses located near roadways

affected by project traffic. However, physical noise mitigation (i.e., installation of noise barriers) does not always represent a feasible mitigation measure for traffic noise impacts to existing residential uses. In most cases, these measures would likely be infeasible to implement, primarily for off-site receptors, because of factors associated with existing land use development such as driveway cutouts, which reduce the efficacy of noise barriers and therefore would not reduce future traffic noise levels to below the established significance threshold. Furthermore, traffic calming measures would only be feasible for neighborhood streets and could not be deployed along arterials and other larger streets and major intersections. Although future development of a transit network would serve to reduce traffic levels and associated roadside noise, it is conservatively assumed that these traffic calming measures have not occurred at the project level (see cumulative Impact 4.8-9). Therefore, this impact would remain **significant and unavoidable**.

Impact 4.8-4: Stationary sources and operational activities associated with development allowed under the proposed project would result in substantial permanent increases in ambient noise levels in the area.

Innovation Park PUD

Non-transportation operational activities in the project area, including operation of mechanical HVAC units, the use of loading docks, and operation of garbage collection trucks, could produce excessive noise levels.

Noise generated by commercial land uses is variable, depending on their size and layout and the operational activities. The commercial uses that would be developed as part of the proposed Innovation Park PUD would be located in the northern portion of the project area (Parcels A and B), while the western portion of the project area would be developed with a mix of residential and commercial uses (Parcel C). Primarily residential uses would occupy the lower half of the project area (Parcels D, D-1, E, and E-1).

Heating, Ventilation, and Air Conditioning Systems

The HVAC systems for maintaining comfortable temperatures in buildings developed under the proposed Innovation Park PUD, including the CNU Medical Center, would consist largely of packaged air conditioning systems. The precise locations of HVAC systems are unknown at this time. Possible locations for HVAC systems would include street level and rooftops. HVAC units can generate noise levels of approximately 51 dBA L_{eq} at a reference distance of 100 feet from the operating units during maximum heating or air conditioning operations.[24]

If residential receptors associated with the proposed project were to be placed within 100 feet or less of HVAC units, these receptors could be exposed to noise levels exceeding the City of Sacramento's nighttime noise standard of 50 dBA L_{eq}. The proposed commercial, retail, and office buildings could have HVAC units that could possibly be as close as 100 feet or less from the nearest existing or proposed sensitive land use. At this distance, existing and proposed sensitive land uses could be exposed to noise levels exceeding the applied City of Sacramento nighttime noise standard. Therefore, operation of HVAC units at the proposed commercial buildings could

[24] Puron. 2005. *48PG03-28 Product Data*. Pages 10 – 11.

expose nearby sensitive land uses to noise levels loud enough to result in a **significant** impact. Mitigation Measure 4.8-4, below, has been identified to reduce this impact.

Loading Docks

Future commercial uses proposed within the project area could require loading docks. Deliveries at loading docks generate noise when trucks arrive and depart from the unloading area, back into the docks (using backup beepers), use air brakes, and generate other noise during unloading. These activities would be a source of elevated noise levels at nearby sensitive receptors. Noise levels of 80 dBA L_{max} and 60 dBA L_{eq} at a distance of 50 feet can be generated during loading dock activities.[25]

Assuming a drop-off rate of 6 dB per doubling of distance and a reference noise level of 60 dBA L_{eq} at a distance of 50 feet, sensitive land uses within approximately 100 feet or less of a loading dock could be exposed to noise levels of up to 54 dBA L_{eq}, which would exceed the applied City of Sacramento nighttime noise standard of 50 dBA L_{eq}. The loading docks at commercial buildings in the project area could be placed within 100 feet or less of an existing sensitive land use. At this distance, sensitive land uses in the project area could be exposed to levels exceeding the City of Sacramento's nighttime noise standard. Therefore, operation of loading docks at the proposed commercial buildings could expose nearby sensitive land uses to noise levels loud enough to result in a **significant** impact**.** Mitigation Measure 4.8-4, below, has been identified to reduce this impact.

Garbage Collection Services

The future residential and nonresidential uses proposed in the project area would be exposed to noise associated with garbage collection along streets. Noise from garbage collection activities includes air-brake release, engine rumble, operation of hydraulic bin lifts, compression of garbage in the truck bed, and use of reversing beepers. Noise from garbage collection is limited by the City's Noise Control Ordinance, which mandates that noise produced by vehicles used for garbage collection be less than 75 dBA L_{max} at 50 feet from the vehicle. The City's Noise Control Ordinance is enforced by the Sacramento Police Department. All garbage collection vehicles serving the project area and the city are required to comply with the operating standards in the City's Noise Control Ordinance to operate in the city. Compliance with these standards are enforced by the City's Code Compliance Division. Therefore, with restrictions on the noise levels generated, the short-term residual noise impact of trucks moving along the project area's streets collecting garbage once a week during the less noise-sensitive daytime hours would be a **less-than-significant** impact, and no mitigation is required.

CNU Medical Center

The hospital building and the central utility plants proposed as part of the CNU Medical Center would have unique stationary noise sources.

[25] Environmental Science Associates. 2008. *Fresh & Easy Distribution Truck Noise Study*. November 2008.

Emergency Diesel Generators

Emergency generators required by the building code for high-rise buildings more than 75 feet tall would also be required for the hospital in case of power failure. The specific locations of such noise-generating equipment are not known because specifics of the proposed new buildings have not yet been designed. Because equipment could be located within the building's interior, noise emanation could be limited to the locations of exhaust and intake portals. Fixed mechanical equipment would be installed and operated to conform to the extent feasible with the requirements of the City of Sacramento Noise Control Ordinance.

Regular maintenance operation of emergency standby diesel generators would occur for approximately four hours per month (50 hours annually) for testing; such a short noise event would not substantially alter ambient noise levels. It should also be noted that operation of proposed generators during a power failure or other emergency would be exempt from the restrictions of the City's Noise Control Ordinance.

Without specific detail on the location and noise-generating specifications and orientation of backup generators, the potential exists for generation of noise levels exceeding the thresholds of the City of Sacramento Noise Control Ordinance. Therefore, impacts related to increased permanent noise levels from stationary sources are conservatively identified as **significant**. Mitigation Measure 4.8-4, below, has been identified to reduce this impact.

Impacts of Central Utility Plants on Existing Receptors

The project proposes three central utility plant structures for the CNU Medical Center: one to support buildings in the medical zone, including the hospital; one in the university zone to support academic buildings; and a third in the residential zone. Specific locations for these plants have been identified only for the medical zone and the university zone. The central plant in the medical zone would be approximately 700 feet east of the nearest residences (Bella Rose Villas condominiums). The central plant in the university zone would be approximately 800 feet east of the nearest residences (Ashton Parc Apartments).

Most operational noise sources of modern central utility plants are enclosed in buildings that attenuate noise from these sources (e.g., heat recovery systems). However, the exterior blowers of modern utility plants have been demonstrated to generate noise levels of up to 64 dBA L_{eq} at the fence line of the central utility plant, which is approximately 150 feet away.[26] Given the minimum 700-foot distance (approximately 13 dBA reduction compared to the noise level at 150 feet) of the proposed central plants from existing occupied residential receptors, noise from central utility plant operation would be on the order of 51 dBA, which would exceed the applied City of Sacramento nighttime noise standard of 50 dBA L_{eq}. The impact of noise generated from the central utility plants would be **significant**. Mitigation Measure 4.7-4, below, has been identified to reduce this impact through a project-specific performance standard.

[26] Environmental Science Associates. 2017. *Stanford University 2018 General Use Permit Draft Environmental Impact Report*. October 2017.

Central Utility Plant Impacts on Proposed Receptors

The central utility plant in the medical zone would be approximately 200 feet from the proposed hospital (a sensitive receptor) and approximately 400 feet from the residential zone of the CNU Medical Center. Given these minimum distances, noise from central utility plant operation could exceed the City of Sacramento's nighttime noise standard of 50 dBA L_{eq}. This impact would be **significant**. Mitigation Measure 4.7-4, below, has been identified to reduce this impact through a project-specific performance standard.

Increased Noise from Emergency Ambulance Trips

Operation of the proposed hospital would result in an increase in ambulance trips traveling along roadways in the project area, including emergency trips with sirens running. Section 8.68.080(C) of the Sacramento City Code exempts sirens and other emergency equipment and activities from the City's noise standards; however, ambulance sirens operating during the noise-sensitive nighttime hours have the potential to result in sleep disturbance at residences. Ambulance sirens are used in the project area under existing conditions, as in any urban area; however, with the proposed CNU Medical Center, the frequency of such occurrences in the project area would increase because the new hospital would be the destination of many emergency ambulance trips that currently travel to other emergency rooms at distant locations. An increase in ambulance siren activity would be most prevalent on arterials and collector streets leading to the proposed hospital, particularly Arena Boulevard and East Commerce Way.

Although the average daily noise descriptors (i.e., L_{dn} and CNEL) incorporate a nighttime weighting or "penalty" that is intended to reflect the expected increased sensitivity to noise at night, the L_{dn} and CNEL standards do not directly address the potential for sleep disturbance. The single-event noise exposure level, or SENEL, is a better metric for evaluating the potential for sleep disturbance from an intermittent noise event: It describes a receiver's total noise exposure from a single impulsive noise event (e.g., a passing vehicle or train, an aircraft flying overhead), which is a rating of a discrete noise event that compresses the total sound energy of the event into a one-second time period, measured in decibels.

Sacramento County, the City of Sacramento, the Governor's Office of Planning and Research, and most cities and counties have not established noise level standards for the effects of single-event noise. However, following the court decision in *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners of the City of Oakland* (2001) 91 Cal.App.4th 1344, there has been increased attention to the evaluation of SENELs and their effects on sleep. Because that case involved aircraft while the hospital center would involve ambulances using sirens, the situations are not the same. Nonetheless, the SENELs from passing ambulances associated with project operations are evaluated here.

Many studies have been conducted regarding the effects of single-event noise on sleep disturbance; however, because of the wide variation in the reaction of test subjects to SENELs of various levels, no definitive consensus has been reached with respect to a universal criterion to apply. Upon a review of studies about sleep disturbance and aircraft-generated SENELs, the Federal Interagency Committee on Aviation Noise (FICAN) provided estimates of the percentage

of people expected to be awakened when exposed to specific SENELs inside a residence.[27] According to FICAN's dose-response curve for predicting awakening, 10 percent of the population is estimated to be awakened when the interior-noise SENEL is 81 dB, an estimated 5–10 percent of the population is affected when the interior-noise SENEL is between 65 and 81 dB, and few sleep awakenings (less than 5 percent) are predicted if the interior-noise SENEL is less than 65 dB.

However, FICAN did not recommend a threshold of significance based on the percentage of people awakened. The threshold for sleep disturbance is not absolute because there is a high degree of variability from one person to another. Thus, the means of applying such research to land use decisions has a degree of discretion based on what a local agency may feel is acceptable. As a result, no government agency has suggested what frequencies of awakenings are acceptable.

For these reasons, FICAN, the Governor's Office of Planning and Research, and most cities and counties continue to use L_{dn} or CNEL as the primary tool for the purpose of land use compatibility planning.[28] In fact, L_{dn} and CNEL represent the cumulative exposure to all single events, that is, the exposure of all SENELs taken together, weighed to add penalties for nighttime occurrences and averaged over a 24-hour period. Thus, it can be argued that Sacramento's L_{dn} standards (shown in Table 4.8-7) already account for the individual impacts associated with the SENELs.

Because the *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners of the City of Oakland* case drew concerns regarding interior SENEL values in excess of 65 dB, this analysis uses a threshold of 65 dB SENEL inside residences. Exposure to 65 dB SENEL or lower would result in a chance of sleep disturbance of less than 5 percent.

Reference sound level measurements indicate that when an ambulance travels past a receptor with its siren on, it generates an SENEL of 102.8 dB 25 feet from its travel route.[29] Assuming the average exterior-to-interior noise level reduction of 25 dB provided by buildings with the windows closed,[30] the maximum SENEL in the interior of rooms located closer than 105 feet from a passing ambulance siren would exceed 65 dBA SENEL. Because some of the houses along nearby roadways used for these ambulance trips, including the nearby segments of Arena Boulevard and East Commerce Way, have habitable rooms that are closer than 105 feet to the near traffic lane of the roadway, these rooms may experience SENELs that exceed the threshold of 65 dB. Therefore, the percentage of people expected to be awakened when inside the affected homes may exceed 5 percent.

This impact occurs under existing conditions on the occasion that an ambulance responds to a call with its siren on in the project area. However, as shown in Table 2-4, it is projected that

27 Federal Interagency Committee on Aviation Noise. 1997. *Effects of Aviation Noise on Awakenings from Sleep*. June 1997. Available: https://www.nps.gov/subjects/sound/upload/findings_awakenings_1997.pdf.

28 California Department of Transportation. 2011. *California Airport Land Use Handbook*. October 2011. Available: https://dot.ca.gov/-/media/dot-media/programs/aeronautics/documents/californiaairportlanduseplanninghandbook-a11y.pdf. Accessed August 30, 2021.

29 City of Elk Grove. 2020. *California Northstate University Medical Center Project Draft Environmental Impact Report*. August 2020. Page 3.11-30.

30 U.S. Environmental Protection Agency. 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. March 1974. Available: https://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.PDF. Accessed August 2021.

approximately 3,600 one-way trips per year by ambulances would be associated with project operations during Phase 1, and approximately 4,200 one-way trips per year during Phases 2 and 3. Although the portion of these trips that would involve use of a siren is unknown at the time of writing this EIR, it is likely that the increase in siren use would be noticeable to the surrounding residents. Thus, operation of the new hospital and Level II trauma center, which would be the destination of emergency ambulance trips, would result in an increase in such noise events.

Residences along segments of Arena Boulevard and East Commerce Way would be exposed to SENELs that would exceed the 65-dB threshold. Ambulances are required to use their sirens during emergency trips because their sirens are purposefully loud to draw the attention of other vehicles' drivers and pedestrians. Thus, ambulance noise is a common component in an urban setting. Because there are no additional feasible measures for reducing exposure to ambulance noise and associated sleep disturbance, this impact would be **significant and unavoidable**.

Mitigation Measure

Mitigation Measure 4.8-4: Implement Measures to Reduce Noise Levels from HVAC Units, Generators, and Loading Docks (PUD, CNU).

For development of new commercial or mixed-use buildings within the Innovation Park PUD area, applicants of individual projects allowed under the proposed project shall demonstrate that noise levels from HVAC units, generators, and/or loading docks would not exceed the stationary noise standards established in the Sacramento City Code: 60 dBA L_{dn} at the primary open space area of detached single-family homes, duplexes, or mobile homes, which is typically the backyard or fenced side yard or 65 dBA at the primary open space areas of townhomes and multi-family apartments or condominiums (private year yards for townhomes; common courtyards, roof gardens, or gathering spaces for multi-family developments). . To demonstrate that a proposed development will meet the City's stationary noise standards, the developer must implement the following measures:

1. The proposed land uses shall be designed so that on-site mechanical equipment (e.g., HVAC units, compressors, generators) and area-source operations (e.g., loading docks, parking lots, and recreational-use areas) are located as far as possible, enclosed, or shielded from nearby noise-sensitive land uses to meet City noise standards.

2. Noise-generating stationary equipment associated with proposed commercial and/or office uses, including portable generators, compressors, and compactors, shall be enclosed or acoustically shielded to reduce noise-related impacts on noise-sensitive residential uses. Acoustical enclosures around stationary equipment offer typical noise reductions of 20–35 dBA.[31]

3. Before a building permit is issued for any individual project allowed under the Innovation Park PUD, the applicant for the project shall submit engineering and acoustical specifications for the project's mechanical HVAC equipment and the proposed locations of on-site loading docks to the City's Planning Division. The applicant shall retain a qualified acoustical engineer to demonstrate that the design of HVAC equipment and loading dock design (types, location, enclosure, specification)

[31] Kinetics Noise Control. 2021. Noiseblock Acoustical Enclosures. Available: https://kineticsnoise.com/noiseblock/acoustic_enclosures.html. Accessed August 13, 2021.

will ensure that noise from the equipment is consistent with the restrictions of Section 8.68.060 of the Sacramento City Code.

4. Truck deliveries in commercial uses shall be limited to 7:00 a.m. to 10:00 p.m. unless site-specific analysis identifies no impacts on sensitive receptors.

5. Commercial loading docks located within 300 feet of existing or proposed residences shall be positioned in areas shielded from view of adjacent noise-sensitive uses by intervening commercial buildings.

6. Solid noise barriers shall be constructed at the boundary of the commercial uses with loading docks of sufficient height to intercept line of sight between heavy trucks and the affected area of the noise-sensitive uses.

7. Signs shall be posted limiting the idling of delivery trucks to 10 minutes or less.

Significance After Mitigation: With implementation of Mitigation Measure 4.8-4, noise impacts from stationary sources and operational activities associated with the proposed project (i.e., HVAC units, generators, and loading docks), would be reduced to less-than-significant levels. However, because no mitigation is available to address significant noise impacts related to increased noise from emergency ambulance trips, the overall operational noise impact would be **significant and unavoidable with mitigation**.

Impact 4.8-5: Noise generated by helicopter landings and takeoffs at the helipad on the roof of the proposed CNU Medical Center's hospital would expose off-site residential land uses to single-event noise exposure levels that would awaken more than 5 percent of people from sleep.

The proposed CNU Medical Center hospital would include development of a helistop, resulting in the introduction of helicopter traffic that would ferry patients to and from the hospital. The approach and departure flight paths to the helistop are depicted in Figure 2-28 in Chapter 2, *Project Description*. Low-flying helicopters are commonly a predominant noise source anytime they occur in an urban environment. The frequency of helicopter overflights in the project area would increase because the helistop at the new hospital would be the destination of emergency helicopter trips approximately four to six times per month.

The effects of helicopter noise on the surrounding community were summarized in the Helicopter Technical Memorandum, included in this EIR as **Appendix G**. Helicopter noise contours were prepared using the Federal Aviation Administration's Aviation Environmental Design Tool, Version 3d. This tool incorporates the number of annual average daily daytime, evening, and nighttime helicopter operations, flight paths, and flight profiles for each helicopter type, along with an extensive internal database of aircraft noise and performance information, to calculate the CNEL at many points on the ground around a heliport/helistop. From a grid of points, the Aviation Environmental Design Tool's contouring program draws contours of equal CNEL that can be superimposed onto land use maps. CNEL contours were produced for two scenarios: normal and busy. The modeling indicates that the CNEL contours would be limited to the site of the proposed CNU Medical Center. Areas exposed to CNEL 65 dB and higher are too small in

size to be depicted under both scenarios. No off-site noise-sensitive residential areas would be exposed to helicopter noise levels that would exceed the CNEL 65 dB threshold.

The helicopter-generated single-event noise exposure levels, or SENELs, were also examined in the study because emergency helicopter trips to the helistop may occur during the noise-sensitive nighttime hours and, as explained previously, the SENEL metric is useful for predicting the probability of sleep disturbance to nearby residents. For environmental noise screening purposes, the commonly accepted level for assessing sleep disturbance is an outdoor SENEL exceeding 89 dBA. The equivalent sound exposure level (SEL)[32] of 89 dBA is used for noise modeling purposes. This is based on achieving an indoor noise level of 65 dBA SENEL, which, according to interim guidelines published by the Federal Interagency Committee on Aviation Noise,[33] corresponds to a maximum 5 percent of the population potentially awakened, and assumes that the receiving building construction provides typical outdoor-to-indoor noise reduction of 25 dB.

The helicopter noise study indicates that the 89 dB SEL contour would extend beyond the project area and transect areas of residential use to the west (Appendix G). Accordingly, some residential uses to the west of the project area would experience an interior SEL of 65 dBA. Therefore, some off-site residents would be exposed to helicopter-generated SELs that would surpass the sleep disturbance threshold. This impact would be **significant and unavoidable**.

Mitigation Measure

None available.

Impact 4.8-6: The proposed project could result in exposure of people residing or working in the project area to excessive noise levels from aircraft activity within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public or private use airport.

Innovation Park PUD and CNU Medical Center

Sacramento International Airport is located approximately 3.5 miles northwest of the project area. No portion of the project area is located within the noise impact areas (60 dBA CNEL contour) for the airport.[34] Construction workers and future occupants of developments within the project area would not be exposed to excessive noise levels from airport operations. Development allowed under the proposed Innovation Park PUD, including the CNU Medical Center, would not expose people residing or working in the project area to excessive noise levels from aircraft operations. This impact would be **less than significant**.

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32 As long as SENEL is measured for the period when the level is within 10 dB of the L_{max}, it will be essentially the same as SEL.

33 Federal Interagency Committee on Aviation Noise. 1997. *Effects of Aviation Noise on Awakenings from Sleep*. June 1997. Available: https://www.nps.gov/subjects/sound/upload/findings_awakenings_1997.pdf.

34 Sacramento Area Council of Governments. 2013. *Sacramento International Airport Land Use Compatibility Plan.* December 12, 2013.

Mitigation Measures

None required.

Cumulative Impacts

Impact 4.8-7: Construction activities for the proposed project, in combination with the construction of other cumulative development, could cause a substantial temporary or periodic increase in ambient noise levels in the area.

The geographic context for changes in the noise and vibration environment as a result of development allowed under the proposed project would be localized to the project area and its surrounding uses, as well as roadways that would serve the project area. Generally, the geographic scope of analysis for cumulative construction-related noise and vibration impacts encompasses sensitive receptors within approximately 1,000 feet of the project area. Beyond 1,000 feet, the contributions of noise from other projects would be greatly attenuated through both distance and intervening structures and their contribution would be expected to be minimal. To contribute to a cumulative construction noise impact, another project in close proximity would have to be constructed at the same time as development allowed under the proposed project.

Table 4.0-1 presents a list of 15 projects located within one-half mile of the project area boundary that either are currently under construction or have been proposed. Of these cumulative projects, three projects are located adjacent to the project area: the Medley Apartments, located adjacent to the southwestern boundary of the project area; the Innovate Corporate Center, a proposed hotel located to the south; and Arena Seniors, an apartment complex located to the east. At this point, the construction schedules are not available for the cumulative projects or for the development of the project area. The project area would be developed over a 10-year period, beginning in 2022; however, the order of development of the parcels in the project area is not known at this point.

As discussed previously in Impact 4.8-1, construction activities could adversely affect both on- and off-site noise-sensitive land uses if located close to where project-related construction would occur. If the schedules for the cumulative projects and the development on Innovation Park PUD parcels adjacent to them were to coincide or overlap, it would lead to cumulative noise impacts on the on- and off-site noise-sensitive receptors and result in higher noise levels than what were previously predicted for just the proposed project.

Although considerable uncertainty exists regarding the locations of and construction schedules for development proposed under the proposed project, and about the location and timing of other cumulative projects in the vicinity, construction noise from cumulative projects in combination with the development allowed under the proposed project would be considered a temporary significant cumulative impact. The contribution of the proposed project would be cumulatively considerable, and the cumulative impact would be **significant**.

Mitigation Measures

Mitigation Measure 4.8-1(a): Prepare and Implement Construction Noise Reduction Plan.

See Impact 4.8-1, above, for the text of this mitigation measure.

Significance After Mitigation: Implementation of Mitigation Measure 4.8-1(a) would reduce the contribution of development allowed under the proposed Innovation Park PUD, including the CNU Medical Center, to cumulative noise levels at on- and off-site noise-sensitive receptors. However, even with implementation of this mitigation measure, it is possible that multiple construction activities would result in significant noise levels at the nearby residential land uses. Consequently, even with the implementation of Mitigation Measure 4.8-1(a), the contribution of development allowed under the proposed project to this cumulative impact would remain considerable, and the impact would be **significant and unavoidable**.

Impact 4.8-8: Construction activities for the proposed project, in combination with the construction of other cumulative development, could expose persons to or generate excessive groundborne noise or groundborne vibration levels.

As discussed previously in Impact 4.8-2, the construction of new development under the proposed project may require the use of impact pile drivers during installation of foundation piles or other vibration-inducing activity such as demolition and grading. Impact pile driving and other such vibration-inducing construction would be temporary and intermittent.

Because of the presence of existing and future planned vibration-sensitive land uses in the project area, vibration levels generated during construction could exceed the FTA's applied vibration threshold for human annoyance and building damage at nearby sensitive land uses and historic structures.

Vibration impacts are based on instantaneous PPV levels. Thus, when analyzing the potential for a cumulative vibration-related damage impact, worst-case levels of groundborne vibration from construction are generally determined based on whichever individual piece of equipment generates the highest vibration levels. The noise levels of multiple pieces of equipment can be combined to generate a maximum combined noise level; however, instantaneous peak vibration levels do not combine in this way. Vibration from multiple construction sites, even if the sites are close to one another, would not be expected to combine to raise the maximum PPV. For this reason, the cumulative impact of construction vibration from multiple construction projects near one another would generally not combine to further increase vibration levels. Vibration effects are highly localized.

Vibration effects resulting from construction for the proposed project would not be expected to combine with vibration effects from cumulative projects in the vicinity. Therefore, cumulative groundborne vibration impacts related to both potential damage effects and annoyance would be **significant**.

Mitigation Measures

Mitigation Measure 4.8-1(b): Implement Measures to Reduce Noise Impacts from Arena Implosion.

Mitigation Measure 4.8-2: Prepare and Implement Construction Vibration Management Plan.

See Impacts 4.8-1 and 4.8-2, above, for the text of these mitigation measures.

Significance After Mitigation: Implementation of Mitigation Measures 4.8-1(b) and 4.8-2 would reduce the contribution of development allowed under the proposed Innovation Park PUD, including the CNU Medical Center, to cumulative vibration levels at on- and off-site noise-sensitive receptors, and the impact would be **less than significant**.

Impact 4.8-9: Traffic associated with the proposed project, in combination with traffic from other cumulative development, would increase roadside noise levels in the area.

Cumulative operational noise impacts of development allowed under the proposed project would result primarily from increased traffic on the local roadway network. Traffic noise levels along roadways leading to the project area are expected to increase as a result of the additional traffic generated by development allowed under the proposed project and other cumulative developments identified in the vicinity. **Table 4.8-13** shows cumulative project traffic noise levels at a reference distance of 50 feet from the various roadway centerlines and the increase over existing and cumulative conditions without the proposed project. Cumulative traffic noise impacts were analyzed for the same intersections as under Impact 4.8-3.

As shown, significant cumulative noise impacts would occur along most roadway segments analyzed even without the addition of traffic from development allowed under the proposed project, with traffic noise levels increasing as much as 19 dB over existing conditions (Table 4.8-13). Sensitive land uses located along these roadway segments would be exposed to cumulative no-project traffic noise that would exceed the City's exterior incremental noise impact standards shown in Table 4.8-8.

In addition to the increase in traffic volumes from cumulative projects, development pursuant to the proposed project would add traffic to existing local roadways and introduce new roadways and intersections to the project area. However, as shown in Table 4.8-12, development allowed under the proposed project would contribute significantly to future cumulative traffic noise levels only along all four entrance roads to the project area. In these locations, the addition of project traffic would increase cumulative noise levels by as much as 14 dB over future cumulative no-project conditions. Residential uses are currently located adjacent to the West and Main Entrances, and future residences introduced by the proposed project could be located adjacent to all four entrance roads, as the southern parcels of the project area are proposed for residential development. Consequently, receptors along these roadway segments would experience an increase in traffic noise from development allowed under the proposed project combined with other cumulative traffic. The proposed project would have a cumulatively

considerable contribution to the overall significant impact. The contribution of development allowed under the proposed project to cumulative traffic noise impacts along portions of Arena Boulevard, East Commerce Way, and Truxel Road would also be considerable, while the contribution to impacts along other analyzed roadway segments would not be considerable.

Overall, development allowed under the proposed project, in conjunction with other cumulative development, would lead to a significant cumulative impact associated with cumulative traffic noise. The contribution of the proposed project would be cumulatively considerable, and the cumulative impact would be **significant**.

TABLE 4.8-13
NOISE LEVELS ALONG ROADWAY SEGMENTS IN THE VICINITY OF THE PROJECT AREA—CUMULATIVE WITH PROJECT

	Traffic Noise Level from a Distance of 50 feet from Center of Roadway, dBA, L_{dn}[1]								
Roadway Segment	**Existing (A)**	**Cumulative No Project (B)**	**Cumulative + Project (C)**	**Incremental Increase (C – A)**	**Incremental Increase (C – B)**	**Incremental Thresholds for (C – A)**	**Incremental Thresholds for (C – B)**	**Cumulative Impact Significant? (Yes or No)[2]**	**Project's Contribution Significant? (Yes or No)[3]**
Del Paso Road									
East of intersection with El Centro Road	68.7	69.3	69.6	0.9	0.3	1	1	No	No
West of intersection with El Centro Road	65.8	66.7	66.8	1.0	0.1	1	1	No	No
El Centro Road									
North of intersection with Del Paso Road	64.5	69.0	69.1	4.6	0.1	2	1	**Yes**	No
South of intersection with Del Paso Road	66.5	66.9	67.2	0.7	0.3	1	1	No	No
Del Paso Road									
East of intersection with Natomas Blvd./ Truxel Road	68.9	70.8	71.3	2.4	0.5	1	1	**Yes**	No
West of intersection with Natomas Blvd./Truxel Road	70.6	72.5	72.7	2.1	0.2	1	1	**Yes**	No
Natomas Boulevard/Truxel Road									
North of intersection with Del Paso Road	70.6	71.1	71.7	1.1	0.6	1	1	**Yes**	No
South of intersection with Del Paso Road	70.0	71.8	72.5	2.5	0.7	1	1	**Yes**	No
West Entrance/Snowy Egret Boulevard									
East of intersection with East Commerce Way	47.1	53.0	65.3	18.2	12.3	8	8	**Yes**	**Yes**
East Commerce Way									
North of intersection with West Entrance/Snowy Egret Boulevard	67.4	71.6	72.5	5.1	0.9	1	1	**Yes**	No
South of intersection with West Entrance/Snowy Egret Boulevard	67.4	71.2	71.2	3.8	0	1	1	**Yes**	No

TABLE 4.8-13
NOISE LEVELS ALONG ROADWAY SEGMENTS IN THE VICINITY OF THE PROJECT AREA—CUMULATIVE WITH PROJECT

	Traffic Noise Level from a Distance of 50 feet from Center of Roadway, dBA, L_{dn}[1]								
Roadway Segment	**Existing (A)**	**Cumulative No Project (B)**	**Cumulative + Project (C)**	**Incremental Increase (C – A)**	**Incremental Increase (C – B)**	**Incremental Thresholds for (C – A)**	**Incremental Thresholds for (C – B)**	**Cumulative Impact Significant? (Yes or No)[2]**	**Project's Contribution Significant? (Yes or No)[3]**
Main Entrance Road									
East of intersection with East Commerce Way	49.8	54.8	68.7	18.9	13.9	8	5	**Yes**	**Yes**
East Commerce Way									
North of intersection with Main Entrance Road	69.8	71.5	71.4	1.6	-0.1	1	1	**Yes**	No
South of intersection with Main Entrance Road	69.8	71.6	73.0	3.2	1.4	1	1	**Yes**	**Yes**
KSP Arena Corporate Center Driveway									
East of intersection with East Commerce Way	52.5	61.4	61.4	8.9	0.0	5	2	**Yes**	No
West of intersection with East Commerce Way	–	66.7	66.7	–	0.0	–	1	–	No
East Commerce Way									
North of intersection with KSP Arena Corporate Center Driveway	67.7	71.7	73.2	5.5	1.5	1	1	**Yes**	**Yes**
South of intersection with KSP Arena Corporate Center Driveway	67.6	72.1	73.5	5.9	1.4	1	1	**Yes**	**Yes**
East Entrance Road/Terracina Drive									
East of intersection with Truxel Road	61.1	62.4	62.4	1.3	0.0	3	2	**Yes**	No
West of intersection with Truxel Road	51.1	61.7	66.3	15.2	4.6	8	2	**Yes**	**Yes**
Truxel Road									
North of intersection with East Entrance Road/Terracina Drive	72.7	71.5	72.2	-0.5	0.7	1	1	No	No
South of intersection with East Entrance Road/Terracina Drive	72.8	72.0	72.1	-0.7	0.1	1	1	No	No
Arena Boulevard									
East of intersection with East Commerce Way	69.6	71.9	72.2	2.6	0.3	1	1	**Yes**	No
West of intersection with East Commerce Way	70.8	73.5	74.6	3.8	1.1	1	1	**Yes**	**Yes**

TABLE 4.8-13
NOISE LEVELS ALONG ROADWAY SEGMENTS IN THE VICINITY OF THE PROJECT AREA—CUMULATIVE WITH PROJECT

	Traffic Noise Level from a Distance of 50 feet from Center of Roadway, dBA, L_{dn}[1]								
Roadway Segment	**Existing (A)**	**Cumulative No Project (B)**	**Cumulative + Project (C)**	**Incremental Increase (C – A)**	**Incremental Increase (C – B)**	**Incremental Thresholds for (C – A)**	**Incremental Thresholds for (C – B)**	**Cumulative Impact Significant? (Yes or No)[2]**	**Project's Contribution Significant? (Yes or No)[3]**
East Commerce Way									
North of intersection with Arena Boulevard	67.6	72.2	73.6	6.0	1.4	1	1	**Yes**	**Yes**
South of intersection with Arena Boulevard	60.4	68.9	69.3	8.9	0.4	2	1	**Yes**	No
Arena Boulevard									
East of intersection with Sally Ride Way	69.4	71.4	71.8	2.4	0.4	1	1	**Yes**	No
West of intersection with Sally Ride Way	69.5	71.8	72.1	2.6	0.3	1	1	**Yes**	No
Sally Ride Way									
North of intersection with Arena Boulevard	53.7	65.6	65.6	11.9	0	5	2	**Yes**	No
South of intersection with Arena Boulevard	55.8	59.1	59.1	3.3	0	3	3	**Yes**	No
Arena Boulevard									
East of intersection with South Entrance/Innovator Drive	69.1	70.6	72.6	3.5	2.0	1	1	**Yes**	**Yes**
West of intersection with South Entrance/Innovator Drive	69.3	71.4	71.7	2.4	0.3	1	1	**Yes**	No
South Entrance/Innovator Drive									
North of intersection with Arena Boulevard	49.6	54.8	69.0	19.4	14.2	8	3	**Yes**	**Yes**
South of intersection with Arena Boulevard	62.4	65.5	65.5	3.1	0	2	1	**Yes**	No
Arena Boulevard									
East of intersection with Truxel Road	68.6	69.3	69.9	1.3	0.6	1	1	**Yes**	No
West of intersection with Truxel Road	69.0	70.4	72.4	3.4	2.0	1	1	**Yes**	**Yes**
Truxel Road									
North of intersection with Arena Boulevard	70.1	72.2	72.3	2.2	0.1	1	1	**Yes**	No
South of intersection with Arena Boulevard	70.8	71.9	73.2	2.4	1.3	1	1	**Yes**	**Yes**
I-80 EB Ramps									
West of intersection with Truxel Road	68.3	68.8	69.8	1.5	1.0	1	1	**Yes**	No

TABLE 4.8-13
NOISE LEVELS ALONG ROADWAY SEGMENTS IN THE VICINITY OF THE PROJECT AREA—CUMULATIVE WITH PROJECT

	Traffic Noise Level from a Distance of 50 feet from Center of Roadway, dBA, L_{dn}[1]								
Roadway Segment	**Existing (A)**	**Cumulative No Project (B)**	**Cumulative + Project (C)**	**Incremental Increase (C – A)**	**Incremental Increase (C – B)**	**Incremental Thresholds for (C – A)**	**Incremental Thresholds for (C – B)**	**Cumulative Impact Significant? (Yes or No)[2]**	**Project's Contribution Significant? (Yes or No)[3]**
Truxel Road									
North of intersection with I-80 EB Ramps	72.4	72.7	73.4	1.0	0.7	1	1	No	No
South of intersection with I-80 EB Ramps	71.8	71.6	71.9	0.1	0.3	1	1	No	No
Prosper Road									
East of intersection with Innovator Drive	58.9	63.6	63.6	4.8	0.0	3	2	**Yes**	No
West of intersection with Innovator Drive	57.1	59.0	59.0	1.9	0.0	3	3	No	No
Innovator Drive									
North of intersection with Prosper Road	61.8	64.8	64.8	3.0	0	2	2	**Yes**	No
South of intersection with Prosper Road	61.4	62.6	62.6	1.2	0	2	2	**Yes**	No
Prosper Road									
East of intersection with Truxel Road	59.2	59.3	59.3	0.1	0	3	3	No	No
West of intersection with Truxel Road	59.0	63.8	63.8	4.8	0	3	2	**Yes**	No
Truxel Road									
North of intersection with Prosper Road	70.0	71.2	72.7	2.7	1.5	1	1	**Yes**	**Yes**
South of intersection with Prosper Road	70.2	71.7	73.1	2.9	1.4	1	1	**Yes**	**Yes**

NOTES: dBA = A-weighted decibels; EB = eastbound; I-80 = Interstate 80; L_{dn} = day/night average sound level

1 Noise levels were determined using algorithms from the Federal Highway Administration's *Traffic Noise Model Technical Manual.*

2 If Cumulative with Project traffic noise increases over existing traffic noise levels at sensitive uses exceed the allowed incremental noise increase provided in Table 4.10-7, it would result in a significant cumulative impact.

3 If Cumulative with Project traffic noise increases over Cumulative No Project traffic noise levels at sensitive uses exceed the allowed incremental noise increase provided in Table 4.10-7, the contribution of the proposed project to the cumulative impact would be significant.

NA = There is no allowable exterior noise increment for non-sensitive uses. For these roadway segments, there are no adjacent residences or buildings where people sleep.

SOURCE: Data compiled by Environmental Science Associates in 2021

Mitigation Measures

Mitigation Measure 4.8-3: Construct Noise Barriers, Incorporate Noise Reduction Measures at Residences, and Install Traffic Calming Measures.

See Impact 4.8-3, above, for the text of this mitigation measure.

Significance After Mitigation: No feasible mitigation strategies have been identified to reduce the on-road transportation noise impacts to less than significant. Alternative modes of transportation (i.e., walking, biking, and transit) are already accounted for in the above traffic noise estimates. The reduction in vehicular use needed to mitigate these roadway noise impacts is not feasible for the proposed project. In addition, typical measures to reduce roadway noise impacts, such as noise walls and setbacks, are not considered feasible mitigation because they would require the retrofitting of existing privately owned structures in the vicinity of the project area. Therefore, the contribution of development allowed under the proposed project to this cumulative impact would remain considerable, and the impact would be **significant and unavoidable**.

Impact 4.8-10: Stationary sources and operational activities associated with the proposed project, in combination with operational noise from other cumulative development, could result in substantial permanent increases in cumulative noise levels in the area.

Cumulative Noise Levels—HVAC Systems and Loading Docks

Noise from operation of non-transportation sources associated with development allowed under the proposed project, such as HVAC systems and loading docks, could cumulatively combine with noise from similar sources from other projects in the immediate vicinity, leading to an exceedance of the City's noise standards. Because the locations of these sources are not known at this point, it cannot be determined whether the noise levels would add up to affect the same receptors. Therefore, as a conservative conclusion, the cumulative impact would be considered significant. The contribution of the proposed project would be cumulatively considerable, and the cumulative impact would be **significant**.

Garbage Collection

On the other hand, noise from garbage collection service in the project area would be limited by the City's Noise Control Ordinance, which mandates that noise produced by vehicles used for garbage collection be less than 75 dBA L_{max} at 50 feet from the vehicle. The City's Noise Control Ordinance is enforced by the Sacramento Police Department. All garbage collection vehicles serving the city, including the project area, would be required to comply with the operating standards of this ordinance. The operating standards are enforced by the City's Code Compliance Division. Given the transient nature of this effect during the less noise-sensitive daytime hours, the same set of receptors would not be exposed to noise from garbage trucks for more than a few minutes. Therefore, this cumulative impact would be **less than significant**, and no mitigation is required.

Mitigation Measure

Mitigation Measure 4.8-4: Implement Measures to Reduce Noise Levels from HVAC Units, Generators, and Loading Docks.

See Impact 4.8-4, above, for the text of this mitigation measure.

Significance After Mitigation: Implementation of Mitigation Measure 4.8-4 would reduce noise impacts from HVAC equipment, generators, and loading docks. This measure requires that HVAC equipment, generators, and loading docks of individual

projects proposed under the Innovation Park PUD be designed to operate so that noise levels generated would be consistent with City codes and standards. As a result, the contribution of development allowed under the proposed project to the overall cumulative impact from non-transportation operational sources such as HVAC systems, generators, and loading docks would be less than considerable, and thus, the impact would be reduced to a **less-than-significant** level.

4.9 Public Services

This section assesses potential impacts on public services that could result from implementation of the proposed Innovation Park PUD, including the CNU Medical Center (together referred to herein as the *proposed project*). The section presents relevant baseline information, including descriptions of existing police protection services, fire protection services, public schools, and parks and recreation facilities in the City and in the proposed Innovation Park PUD area (referred to in this section as the *project area*) and project vicinity, and considers how development allowed under the proposed project as a whole, or development of the proposed CNU Medical Center specifically, would affect these public services. A description of potential project impacts is also provided, and, where applicable, feasible mitigation is identified to avoid or lessen those impacts.

4.9.1 Police Protection

Introduction

This section describes police protection services provided in the project vicinity. Potential impacts of the proposed project on police protection services are analyzed based on projected project data and staffing ratio goals.

The primary sources of the data referenced during the preparation of this section include the Sacramento 2035 General Plan and Background Report, the 2035 General Plan EIR, the North Natomas Community Plan (NNCP), the Sacramento Police Department (SPD) 2016 Annual Report, and the SPD website.

Four comments related to police protection services were received during the Notice of Preparation (NOP) comment period for this EIR, all citing concerns about the ability of the City to meet adequate police staffing ratios with the introduction of additional residents to the NNCP area. These concerns are addressed in the subsection below.

Environmental Setting

Sacramento Police Department

SPD provides police protection and law enforcement services to the City of Sacramento, including the project area. SPD is staffed by approximately 756 sworn police officers and 347 civilian staff members[1] and received 316,161 calls for service in 2020, with 88,401 of those calls resulting in the dispatch of officers.[2] For the 2021–2022 fiscal year, SPD has a proposed budget allowing for 1,102.96 full-time equivalent (FTE) positions across the Office of Investigations Division, Office of Operations Division, Office of Specialized Services Division, and Office of the Chief Division. This projected budget includes 639 proposed FTE positions within the Office of Operations.[3]

1 City of Sacramento Department of Finance. No date. *Proposed City of Sacramento Fiscal Year 2021/22 Budget.* Page 216.

2 Sacramento Police Department. 2021. Crime & Statistics. Available: https://www.cityofsacramento.org/Police/Crime. Accessed July 22, 2021.

3 City of Sacramento Department of Finance. No date. *Proposed City of Sacramento Fiscal Year 2021/22 Budget.* Page 221.

There are several SPD facilities throughout the City of Sacramento. The department's headquarters is located at the Public Safety Center, 5770 Freeport Boulevard. SPD also has three substations that together cover four command areas. The substation currently serving the project area is the William J. Kinney Police Facility, located at 3550 Marysville Boulevard, approximately 4.4 miles southeast of the project area. This substation covers the North Command, which encompasses North and South Natomas, Robla, Del Paso Heights, Strawberry Manor, and Arden Fair. The command area is broadly bounded by Elkhorn Boulevard and Vinci Avenue to the north, the American River to the south, Auburn Boulevard and Ethan Way to the east, and the Sacramento River to the west.

The North Command consists of two districts and six beats—1A, 1B, 1C, 2A, 2B, and 2C—and the project area is served by Beat 1A of Northwest District 1.[4] North Command has a staff of one police captain, four police lieutenants, 10 sergeants (operating across all assignments within the command), 37 officers, one community service officer, four officers serving the Problem Oriented Policing Team, five officers assigned to the Mounted Unit, and 15 officers assigned to the Bike Unit.

California Highway Patrol

The California Highway Patrol (CHP) oversees law enforcement along California highways within the city of Sacramento, including Interstates 5 and 80, which are located near the project area. CHP operations in Sacramento are headquartered at 1801 9th Street, approximately 5.15 miles south of the project area.

Regulatory Setting

Federal

No federal regulations regarding police protection services are relevant to the proposed project, including the proposed CNU Medical Center.

State

Essential Services Buildings Seismic Safety Act

The Essential Services Buildings Seismic Safety Act of 1986 (California Health and Safety Code, Sections 16000–16023) applies to fire stations, police stations, and other public facilities that respond to emergencies. This law is intended to ensure that essential-services buildings are capable of providing essential services to the public after a disaster; are designed and constructed to minimize fire hazards; and are capable of resisting, insofar as practical, the forces generated by earthquakes, gravity, and wind. Nonstructural components vital to the operation of essential-services buildings also must be able to resist, insofar as practical, the forces created by earthquakes, gravity, fire, and wind. The Essential Services Buildings Seismic Safety Act does not apply to hospitals and thus is not applicable to the proposed CNU Medical Center.

[4] Sacramento Police Department. No date. *Sacramento Police Department 2016 Annual Report*. Page 8.

Local

Sacramento 2035 General Plan

The following goals and policies from the 2035 General Plan's Public Health and Safety Element related to police protection are relevant to the proposed project, including the proposed CNU Medical Center.

Goal PHS 1.1: Crime and Law Enforcement. Work cooperatively with the community, regional law enforcement agencies, local government and other entities to provide quality police service that protects the long-term health, safety, and well-being of our city, reduces current and future criminal activity, and incorporates design strategies into new development.

***Policy PHS 1.1.1: Police Master Plan*.** The City shall maintain and implement a Police Master Plan to address staffing and facility needs, service goals, and deployment strategies.

***Policy PHS 1.1.2: Response Time Standards*.** The City shall strive to achieve and maintain optimal response times for all call priority levels to provide adequate police services for the safety of all city residents and visitors.

***Policy PHS 1.1.3: Staffing Standards*.** The City shall maintain optimum staffing levels for both sworn police officers and civilian support staff in order to provide quality police services to the community.

***Policy PHS 1.1.4: Timing of Services*.** The City shall ensure that development of police facilities and delivery of services keeps pace with development and growth in the city.

***Policy PHS 1.1.5: Distribution of Facilities*.** The City shall expand the distribution of police substation type facilities to allow deployment from several smaller facilities located strategically throughout the city and provide facilities in underserved and new growth areas in order to provide optimum response to all city residents.

***Policy PHS 1.1.6: Co-Location of Facilities*.** The City shall seek to co-locate police facilities with other City facilities, such as fire stations, to promote efficient use of space and provision of police protection services within dense, urban portions of the city.

***Policy PHS 1.1.7: Development Review*.** The City shall continue to include the Police Department in the review of development proposals to ensure that projects adequately address crime and safety, and promote the implementation of Crime Prevention through Environmental Design principles.

***Policy PHS 1.1.8: Development Fees for Facilities and Services*.** The City shall require development projects to contribute fees for police facilities.

***Policy PHS 1.1.12: Cooperative Delivery of Services*.** The City shall work with local, State, and Federal criminal justice agencies to promote regional cooperation in the delivery of services.

Goal PHS 4.1: Response to Natural and Human-Made Disasters. Promote public safety through planning, preparedness, and emergency response to natural and human-made disasters.

Policy PHS 4.1.5: Mutual Aid Agreements. The City shall continue to participate in mutual aid agreements to ensure adequate resources, facilities, and other support for emergency response.

North Natomas Community Plan

The following policies from the NNCP are applicable to the proposed project, including the proposed CNU Medical Center.

Public Health and Safety

Policy NN.PHS 1.2: Police Protection Service. The City shall locate a five-acre police substation in the [Natomas] Town Center. Locating the police station near the regional park enhances the sense of safety in the park. Prior to development, the City Police Department must verify adequate police protection facilities and services, including equipment and personnel, exists to serve the project, or will be provided, to maintain a police protection service standard of 1.60 police officers per 1,000 residents and 1.0 non-sworn personnel for every 1.60 police officers added either through a funded program or as a condition of approval for the project. The Police Department requires a police substation to be provided prior to 60 percent of the land being developed within the North and South Natomas areas. The station provides service to the subregion of North and South Natomas and is able and projected to accommodate 220 officers and non-sworn personnel.

Policy NN.PHS 1.4: Police Protection Design. The City shall design the physical form of the community to require less police protection.

Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, impacts on police protection services may be considered significant if implementation of the proposed project would:

- Result in substantial adverse physical impacts related to the provision of new or expanded facilities associated with police protection, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

Methodology and Assumptions

The impact analysis related to police protection services examines whether development allowed under the proposed project, including the proposed CNU Medical Center, would require the introduction or expansion of police protection facilities for additional staffing or equipment, such that the construction of these facilities would result in physical environmental impacts. Increases in development have the potential to create a need for additional police staff and/or facilities; meeting this need ensures appropriate police protection service levels and response times.

NNCP Policy NN.PHS 1.2 states that before development, SPD must verify that adequate police protection facilities and services, including equipment and personnel, exist to maintain a service standard of 1.60 sworn officers for every 1,000 residents, as well as a ratio of one non-sworn staff

member for every 1.60 sworn officers. However, to determine SPD staffing needs to adequately serve the project area, this analysis conservatively uses the ratio of 2.0 to 2.5 sworn police officers per 1,000 residents and one civilian support staff member per two sworn officers.

In addition to residential development, both the proposed project as a whole and the proposed CNU Medical Center specifically would include nonresidential, employment-generating development that would include commercial retail, office, and educational uses. The proposed CNU Medical Center would also include health care uses related to the treatment, care, and rehabilitation of injured trauma patients and the education of medical students through the CNU School of Medicine. Although these uses may require police protection services that differ from those required for residential uses, this EIR uses the one ratio, based on the number of residents, to determine police staffing needs. This reasoning is based on the analysis in the 2035 General Plan Master EIR, which uses a single ratio to capture all police demands. For a qualitative discussion regarding the ways in which nonresidential uses could contribute to the demand for police protection services, see *Impacts and Mitigation Measures*, below.

Table 4.9-1 presents an estimate of the numbers of sworn officers and non-sworn staff members who would be needed to accommodate the proposed project, based on the population projections provided in Chapter 3, *Land Use, Population, Employment, and Housing*.

TABLE 4.9-1
ESTIMATES OF POLICE STAFFING REQUIRED FOR THE PROPOSED PROJECT

Innovation Park PUD Projected Population (Residents) [a]	Sworn Officers per 1,000 Residents	Officers	Non-sworn Staff Members/Officers	Non-sworn Staff Members
8,169	2/1,000	16	0.5	7
8,169	2.5/1,000	20	0.5	9

NOTE: PUD = Planned Unit Development

[a] The cumulative projected population for the proposed project, including the proposed CNU Medical Center, was determined by using a factor of 2.66 persons per household, which was multiplied by the 3,071 2,475 dwelling units that could result from implementation of the proposed project.

SOURCE: City of Sacramento. 2015. *City of Sacramento 2035 General Plan Background Report*. Adopted March 3, 2015. Page 5-5.

Impacts and Mitigation Measures

Impact 4.9-1: Implementation of the proposed project could result in adverse environmental effects related to the construction of new or expansion of existing police facilities as a result of increased demand for police protection services within the city of Sacramento.

Innovation Park PUD

Effects on California Highway Patrol

The CHP oversees law enforcement along highways within the Sacramento city limits, including Interstates 5 and 80, both of which are located near the project area. However, the project area is not state-owned and would not require on-site law enforcement services from the CHP. As a result, effects of the proposed project on the CHP would be **less than significant**.

Effects on Sacramento Police Department

SPD would be responsible for providing police protection services to development under the proposed project, which, as discussed in Chapter 3, *Land Use, Population, Employment, and Housing*, could introduce up to 3,071 residential units and 8,169 residents to the project area. This increase in residential units and population could create additional demand for police protection services in the City of Sacramento to maintain SPD's unofficial service-level goals.

Using the lower staffing ratio of two sworn officers per every 1,000 residents, the additional 8,169 residents potentially introduced by the proposed project would result in the need for a minimum of 16 sworn officers to maintain adequate service levels. Because SPD also has an unofficial service goal of one civilian staff member for every two sworn officers, the new population could also create the need for seven additional civilian staff members. If the higher staffing ratio of 2.5 sworn officers per every 1,000 residents is used, the proposed project could create a demand for a maximum of 20 sworn officers and nine civilian staff members.

As discussed in Chapter 3, *Land Use, Population, Employment, and Housing*, the proposed project could include a variety of nonresidential uses in the project area, resulting in the full-time employment of up to 7,420 people anticipated with full development of the proposed CNU Medical Center. These nonresidential uses and population would also increase demand for police protection services in the project area. However, no additional nonresidential calculation is included in the residentially focused calculations for police demand, as the staffing goal ratios referenced above are used to capture all police demand within the Sacramento city limits.

The project area is located within North Command, in Northwest Police District 1, and is served by the William J. Kinney Police Facility. This substation is located at 3550 Marysville Boulevard, approximately 4.4 miles southeast of the project area. Policy 1.1.8 in the 2035 General Plan requires new development in the city to contribute fees for police facilities. All new residential and commercial uses developed under the proposed project would be required to contribute to the funding of police protection services via the General Fund through a combination of sales and/or property taxes.

The 2035 General Plan projects a population increase of 165,000 residents by 2035, given full buildout of the plan. This projected population under buildout would require an additional 330–413 new sworn officers and 165–207 additional civilian staff to meet the unofficial staffing goals used by SPD.[5]

However, in the 2035 General Plan Master EIR, the City of Sacramento also identified several new police stations and associated facilities. These facilities could accommodate up to 600 new sworn officers and civilian staff members, and would accommodate nearly all additional staff members required to maintain adequate service levels under full buildout of the General Plan. Potential impacts associated with construction of these facilities were evaluated programmatically in the 2035 General Plan Master EIR. One of these identified facilities is a North Natomas essential service facility for SPD, intended to be located in the Natomas Town Center south of

[5] City of Sacramento. 2015. *City of Sacramento 2035 General Plan Draft Master Environmental Impact Report*. Page 4.10-2.

New Market Drive. This facility is projected to house 200 total staff members, and to include a public counter, offices, workstations, interview rooms, locker rooms, break rooms, a gym, and conference rooms, as well as a separate service garage and fueling station.[6]

Because the proposed project would be required to comply with General Plan policies related to police protection services, and because additional services to accommodate the expansion of staff and services have been identified, sufficient police protection services would be provided to serve the increase in demand resulting from implementation of the proposed project. As a result, the impact of the proposed project on SPD resources would be **less than significant**.

CNU Medical Center

The proposed CNU Medical Center would introduce new development to the project area through a variety of commercial, retail, office, educational, and health care uses. The estimate of full-time employment anticipated under implementation of the proposed project as discussed in Chapter 3, *Land Use, Population, Employment, and Housing,* assumes that the project could result in approximately 7,420 new jobs associated with operation of the CNU Medical Center at full build-out. This estimate includes 4,345 employees associated with the CNU hospital. These nonresidential uses would also increase demand for police protection services in the project area. However, no additional nonresidential calculation is included in the residentially focused calculations for police demand, as the staffing ratios referenced above are used to capture all police demand within the Sacramento city limits.

The aforementioned nonresidential uses and employment, which would be introduced through implementation of the proposed CNU Medical Center, would increase the demand for police protection services in the project vicinity. However, all new commercial uses developed in the project area, including those that would be incorporated into the CNU Medical Center facilities, would be required to contribute to the funding of police protection services via the General Fund through a combination of sales and/or property taxes.

The average hospital bed generates 1.81 police service calls per year, with an average bed in a designated trauma-center hospital generating approximately four police service calls per year.[7] The hospital proposed for the CNU Medical Center would contain 420 hospital beds and generate approximately 1,680 calls for police services annually.

As part of the CNU Medical Center, the project proposes 600 student dormitory units anticipated to house 600 medical students, 200 proposed faculty units anticipated to house 450 faculty plus their family members, and a residential care facility for the elderly anticipated to accommodate approximately 200120 senior residents. These residential units, in addition to the trend of police service calls generated annually by hospital beds, would result in an increased demand for police services. However, as the proposed project would comply with General Plan policies related to police protection services, and because additional services to accommodate the expansion of staff

6 City of Sacramento. 2015. *City of Sacramento 2035 General Plan Draft Master Environmental Impact Report.* Page 2-37.

7 Elk Grove Police Department. 2020. *California Northstate University—Police Department Mitigation Analysis.* Memorandum prepared by E. Montgomery. February 4, 2020.

and services have been identified within the 2035 General Plan EIR, sufficient police protection services would be provided to serve the increase in demand resulting from implementation of the proposed CNU Medical Center.

Furthermore, the project area is currently designated as an Urban Center High land use but would be designated Urban Center Low under the proposed project. Demand for police protection services that would result from implementation of the CNU Medical Center is therefore already considered and accounted for in the 2035 General Plan Master EIR. No additional police facilities are anticipated to serve the CNU Medical Center. The impact of the proposed CNU Medical Center on police protection services provided by SPD would be **less than significant.**

Mitigation Measure

None required.

Cumulative Impacts

The impact of the proposed project, including the proposed CNU Medical Center, on police protection services must be analyzed in conjunction with past, present, and future development projects that could contribute to the impacts of the proposed project and create cumulative impacts. The geographic context for the analysis of cumulative impacts on police protection is represented by the service area boundary of SPD, which coincides with the Sacramento city limits. However, the following cumulative impact analysis for police protection services focuses on the portions of the city that lie within the NNCP area.

Impact 4.9-2: Implementation of the proposed project, in combination with other development, could result in the need for construction of additional or expansion of existing police facilities to accommodate a potential increase in cumulative demand for police protection services within the city of Sacramento.

The proposed project, including the proposed CNU Medical Center, could contribute up to 8,167 new residents to the NNCP area. The project would also include commercial retail and office uses that could introduce as many as 7,420 full-time employees to the city of Sacramento. As discussed in the City's 2013–2021 Housing Element, the NNCP area is projected to experience a 28.6 percent growth rate between 2020 and 2035 and to reach a population of 89,025 residents in 2035.[8] The total population of Sacramento included 515,673 residents in 2019[9] and is projected to experience an annual growth rate of 1.3 percent between 2020 to 2035 for an overall population of 640,381 residents by 2035, under full buildout of the 2035 General Plan.[10] The Central City and Arden/Arcade are anticipated to experience the most growth under these conditions between 2020-2035, at projected rates of 53 percent and 49.8 percent, respectively (**Table 4.9-2**). The development expected by this anticipated growth would create additional demand for police

8 City of Sacramento. 2013. *City of Sacramento 2013–2021 Housing Element*. Adopted December 17, 2013. Page H 3-6.

9 U.S. Census Bureau. 2021. QuickFacts. Available: https://www.census.gov/quickfacts/fact/table/sacramentocitycalifornia#. Accessed July 23, 2021.

10 City of Sacramento. 2013. *City of Sacramento 2013–2021 Housing Element*. Adopted December 17, 2013. Page H 3-3.

protection services throughout the city of Sacramento, including within the NNCP area. The need for new police facilities to adequately meet the increased demand resulting from an expanded population could represent a significant cumulative impact on police protection services.

In addition to existing SPD facilities, four facilities were identified in the 2035 General Plan Master EIR as subsequent projects to accommodate the future needs of the police department in meeting future demand for law enforcement services. These projects include the construction of three essential service substations: one each within the Railyards Specific Plan area, in the Natomas Town Center, and at a to-be-determined location in the South Command area. The fourth subsequent project involves the expansion of an existing police evidence and supply storage warehouse at 555 Sequoia Pacific Boulevard.[11] Potential impacts associated with construction of these facilities were evaluated programmatically in the 2035 General Plan Master EIR.

TABLE 4.9-2
SACRAMENTO POPULATION PROJECTS, 2020-2035

Community Plan Area	2020 (Projected Population)	2035 (Project Population)	Percent Change 2020-2035
Arden/Arcade	15,016	22,496	49.8%
Central City	71,436	109,312	53.0%
East Sacramento	38,641	45,426	17.6%
Fruitridge/Broadway	62,578	72,673	16.1%
Land Park	34,304	37,905	10.5%
North Natomas	69,235	89,025	28.6%
North Sacramento	51,805	57,354	10.7%
Pocket	50,890	52,940	4.0%
South Area	89,756	105,908	18.0%
South Natomas	45,209	47,342	4.7%
Total	**528,866**	**640,381**	**21.1%**

SOURCE: City of Sacramento. 2013. *City of Sacramento 2013–2021 Housing Element*. Page H 3-6.

Policies developed in accordance with Goal PHS 1.1 of the 2035 General Plan are intended to ensure that adequate police services and facilities exist to appropriately serve the increased buildout and population that would result from General Plan buildout:

- Policy PHS 1.1.1 requires that the City develop a police master plan that addresses staffing and facility needs, service goals, and deployment strategies in a manner that considers and responds to all demands for police protection in the city of Sacramento, which include demands generated by the proposed project, including the proposed CNU Medical Center.
- Policies PHS 1.1.2 through PHS 1.1.4 mandate that the City strive to meet and maintain optimum response times and staffing standards for police protection services, and that the

[11] City of Sacramento. 2015. *City of Sacramento 2035 General Plan Draft Master Environmental Impact Report*. Page 2-37.

City develop necessary police facilities and deliver those services at a pace consistent with new development.

- Policies PHS 1.1.5 and PHS 1.1.12 are intended to ensure that facilities are strategically located to provide law enforcement and protection services to all residents in regional cooperation with federal, state, and local agencies.
- Policy PHS 1.1.6 calls for the co-location of police facilities with other compatible City facilities, such as fire stations, where appropriate, to efficiently use space and resources and to ensure that police protection services are adequately provided throughout denser portions of the City.
- Policy PHS 1.1.7 also requires that SPD be involved in the review of development proposals to ensure that projects adequately address crime and safety considerations and that crime may be mitigated or prevented, where possible, through the use of Crime Prevention through Environmental Design strategies.

In addition, Policy PHS 1.1.8 requires development projects to contribute fees and taxes for the provision of police staffing, facilities, and services. Although development and population growth in the City of Sacramento, including the project area, would require additional police staff and resources, the proposed project would pay all required development impact fees in order to contribute to payment for the expansion of police services in adherence with Policy PHS 1.1.8. Moreover, if new or additional facilities beyond those identified as subsequent projects in the 2035 General Plan Master EIR are needed, it is likely that they would be developed on property identified in the General Plan for urban development and evaluated in the 2035 General Plan Master EIR. Therefore, the contribution of the proposed project on the need for construction of new or expansion of existing police protection facilities would not be cumulatively considerable; as such, this impact would be **less than significant**.

Mitigation Measure

None required.

4.9.2 Fire Protection

Introduction

This section describes fire protection services provided in the project vicinity. Potential impacts of the proposed project on fire protection services are analyzed based on projected project data and service level goals.

The primary sources of the data referenced during the preparation of this section include the 2035 General Plan and Background Report, the 2035 General Plan EIR, the Sacramento Fire Department (SFD) 2017 Annual Report, the City of Sacramento Proposed Fiscal Year 2021/22 Budget, and the SFD website.

One comment related to fire protection services was received during the NOP comment period for this EIR, citing a disparity between fire protection resources and ongoing growth in the city of Sacramento. This comment is addressed in the subsection below.

Environmental Setting

Sacramento Fire Department

SFD is a full-service fire department that offers fire protection services to the city of Sacramento, which covers approximately 99 square miles within the city's boundaries. Based on 2019 census data, SFD serves approximately 513,624 residents[12] within the city limits. SFD is also contracted by the Pacific/Fruitridge and Natomas Fire Protection Districts (FPDs) to provide fire protection services to an additional 50,000 residents across approximately 46 miles of unincorporated Sacramento County.[13]

In addition to fire protection services, which include fire prevention, fire investigation, fire code enforcement, and fire suppression, SFD provides "a broad range of services including emergency medical services, paramedic care, ambulance transportation, hazardous materials response, special and technical rescue, [and] urban search and rescue."[14] These various services are structured under three broad SFD divisions: Emergency Medical Services (EMS), Special Operations, and Suppression.

The EMS Division works in conjunction with the Sacramento County EMS Authority, local hospitals, and community organizations, and primarily provides first responder and transportation services. In this capacity, the EMS Division provides Basic Life Support and Advanced Life Support (ALS) services. SFD currently operates 13 24-hour ALS ambulances, each staffed with two firefighters, at least one of whom is a licensed paramedic. Up to three flex ALS ambulances may be deployed when additional staffing and equipment are available. However, all SFD engine and truck companies are used as EMS first responders and are staffed with firefighters licensed to serve as paramedics or emergency medical technicians; each first-response unit is capable of providing at least Basic Life Support services.[15]

The Special Operations Division is a multifaceted team that addresses specific SFD operations by implementing specialized programs that include Hazardous Materials, Domestic Preparedness, and Technical Rescue. Two battalion chiefs are also responsible for implementing Boat and Heavy Rescue programs, and one additional battalion chief oversees the Urban Search and Rescue Program, which sponsors California Urban Search and Rescue Task Force 7, a Federal Emergency Management Agency Urban Search and Rescue task force funded by a U.S. Department

12 U.S. Census Bureau. 2021. QuickFacts. Available: https://www.census.gov/quickfacts/fact/table/sacramentocitycalifornia#. Accessed July 23, 2021.

13 Sacramento Fire Department. No date. *2017 Annual Report*. Page 4.

14 Sacramento Fire Department. No date. *2017 Annual Report*. Page 5.

15 City of Sacramento. 2021. Emergency Medical Services. Available: https://www.cityofsacramento.org/Fire/Operations/Emergency-Medical-Services. Accessed July 22, 2021.

of Homeland Security grant. These various specialized operations may have different response areas than SFD as a whole, depending on the nature and severity of the response required.[16]

Fire suppression services are intended to "protect life, property, and the environment"[17] from fire damage, particularly in emergency situations. The Fire Suppression Division currently consists of 24 active fire stations, which operate 24 fire engines, nine ladder trucks, three battalions, and one heavy rescue apparatus. Staffing for each of the 34 operational suppression companies includes one company officer (captain), one engineer, and two firefighters. Daily operational staffing among the three battalions, 34 suppression companies, one EMS captain, and associated ALS ambulances includes 169 personnel.[18]

In 2017, SFD responded to 91,205 calls for service,[19] 83,091 of which were related to incidents within the SFD service area.[20] The EMS Division responded to roughly 72,506 EMS calls in 2017.[21]

Sacramento Fire Department Staffing

In the 2021–2022 fiscal year, SFD has a proposed budget allowing for 710.50 FTE positions, comprising the following staffing numbers: two staff members in the Office of the Fire Chief Division, 607 in the Operations/EMS Division, 14 in the Fire Administrative Services Division, 47 in the Tech Services Division, and 11 staff members in the Training/Professional Standards Division.[22]

Sacramento Fire Department Mutual Aid

SFD receives fire and emergency medical dispatches from the Sacramento Regional Fire/EMS Communications Center (SRFECC), a joint powers authority that consists of SFD, Cosumnes Community Services District, Folsom Fire Department, Sacramento Metropolitan Fire District, Courtland Fire Department, Herald FPD, Isleton Fire Department, River Delta Fire Protection Department (FPD), Wilton FPD, and Walnut Grove FPD.[23] SFD participates in automatic aid agreements for all agencies that participate in the SRFECC, and is active within the state mutual aid response system on behalf of the California Governor's Office of Emergency Services. In 2017, SFD responded to 8,114 calls for mutual aid.[24]

16 City of Sacramento. 2019. Special Operations. Available: http://www.cityofsacramento.org/Fire/Operations/Special-Operations. Accessed July 22, 2021.

17 City of Sacramento. 2019. Fire Suppression. Available: http://www.cityofsacramento.org/Fire/Operations/Fire-Suppression. Accessed July 22, 2021.

18 City of Sacramento. 2019. Fire Suppression. Available: http://www.cityofsacramento.org/Fire/Operations/Fire-Suppression. Accessed July 22, 2021.

19 Sacramento Fire Department. No date. *2017 Annual Report*. Page 8.

20 Sacramento Fire Department. No date. *2017 Annual Report*. Page 68.

21 Sacramento Fire Department. No date. *2017 Annual Report*. Page 24.

22 City of Sacramento Department of Finance. No date. *Proposed City of Sacramento Fiscal Year 2021/22 Budget*. Page 197.

23 Sacramento Regional Fire/EMS Communications Center. 2021. Agencies/SOG's. Available: https://www.srfecc.ca.gov/agencies-sogs/. Accessed July 22, 2021.

24 Sacramento Fire Department. No date. *2017 Annual Report*. Page 11.

Sacramento Fire Department in North Natomas

North Natomas, including the project area, is currently served by multiple fire stations:

- Station 43, 4201 El Centro Road (approximately 0.85 mile east of the project area).
- Station 30, 1901 Club Center Drive (approximately 1.13 miles northeast of the project area).
- Station 18, 746 N. Market Boulevard (approximately 1.59 miles east of the project area).
- Station 15, 1640 West El Camino Avenue (approximately 2.36 miles south-southwest of the project area).
- Station 14, 1341 North C Street (approximately 4.10 miles southeast of the project area).

Station 43 would serve as the "first-in" responder for development under the proposed project, including the proposed CNU Medical Center.[25] In 2017, the station received 1,951 calls for service[26] and responded to 1,749 calls.[27] **Table 4.9-3** lists the call volumes received per station near the project area in 2017, while **Table 4.9-4** summarizes the calls received and responded to by each engine company assigned to each station in 2017.

TABLE 4.9-3
CALLS FOR SERVICE BY STATION NEAR THE PROJECT AREA, 2017

Station	Total Calls for Service
43	1,951
30	2,160
18	1,879
15	4,117
14	3,310

SOURCE: Sacramento Fire Department. No date. *2017 Annual Report*. Page 13.

TABLE 4.9-4
SACRAMENTO FIRE DEPARTMENT ENGINE COMPANY RESPONSES TO CALLS FOR SERVICE, 2017

Engine Company	Engine Dispatches Inside the City of Sacramento	Engine Dispatches Outside the City of Sacramento	Total Engine Dispatches
43	1,747	2	1,749
30	1,888	35	1,923
18	2,224	7	2,231
15	4,000	1	4,001
14	3,966	6	3,972

NOTE:
The counts listed here represent responses to calls for service by engine companies, and do not include dispatches to truck companies, medic units, or the rescue company, as not every Sacramento Fire Department station is associated with those latter types of units.

SOURCE: Sacramento Fire Department. No date. *2017 Annual Report.* Page 13.

25 Sacramento Fire Department. 2012. *Engine Company First-In Districts and Response Zones—BARB Configuration.*
26 Sacramento Fire Department. No date. *2017 Annual Report*. Page 15.
27 Sacramento Fire Department. No date. *2017 Annual Report*. Page 13.

Regulatory Setting

Federal

No federal regulations regarding fire protection services are relevant to the proposed project, including the proposed CNU Medical Center.

State

California Occupational Safety and Health Administration

In accordance with California Code of Regulations (CCR) Title 8, Sections 1270 ("Fire Prevention") and 6773 ("Fire Protection and Fire Equipment"), the California Occupational Safety and Health Administration has established minimum standards for fire suppression and EMS. The standards include but are not limited to guidelines for the handling of highly combustible materials, requirements for the sizing of fire hoses, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

Essential Services Buildings Seismic Safety Act

As discussed previously under *Regulatory Setting* in Section 4.9.1, *Police Protection*, the Essential Services Buildings Seismic Safety Act of 1986 is intended to ensure that essential services buildings (e.g., fire stations) can provide essential services to the public after a disaster. These buildings must be designed and constructed to minimize fire hazards and resist forces generated by earthquakes, gravity, and winds; nonstructural components vital to building operation must also be able to resist these forces. The Essential Services Buildings Seismic Safety Act does not apply to hospitals and thus is not applicable to the proposed CNU Medical Center.

California Health and Safety Code

Sections 13000–13263 of the California Health and Safety Code establish state fire protection regulations pertaining to a range of factors: portable fire extinguishers, automatic fire extinguisher systems, clothes cleaning establishments, high-rise structures, emergency procedure information, building certification, fire safety inspections of care facilities, propane storage and handling, fire hazard abatement, and carbon monoxide poisoning. Sections 13800–14868 codify the provisions for forming, implementing, and operating fire protection districts, as well as the roles of fire companies in unincorporated towns and the privately contracted private fire prevention resources.

California Code of Regulations

CCR Title 8, Sections 1270 ("Fire Prevention") and 6773 ("Fire Protection and Fire Fighting Equipment"), establish guidelines for the safe inspection, maintenance, use, and storage of fire prevention and protection and firefighting equipment in compliance with applicable fire protection requirements of General Industry Safety Orders.

California Green Building Standards Code

The California Green Building Standards Code (CALGreen) represents Part 11 of the California Building Standards Code under CCR Title 24. CALGreen is intended to promote sustainable construction practices by reducing negative impacts associated with construction, applying design and methodology to encourage positive environmental impacts. The code is the State of

California's first green building code, and applies to "the planning, design, operation, construction, use, and occupancy of every newly-constructed building or structure on a statewide basis unless otherwise indicated."[28]

Uniform Fire Code

The Uniform Fire Code (UFC) provides regulations governing the construction, maintenance, and use of buildings, and is the primary fire code enforced throughout the United States. This code is also used in the development of the California Fire Code. Topics addressed in the UFC include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, storage and use of hazardous materials, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and their surrounding premises. The UFC contains specialized technical regulations related to fire and life safety. Sprinkler system standards and requirements for different types of buildings, including hospitals, are also provided in the UFC.

California Fire Code

The 2016 California Fire Code regulates conditions that include the storage, handling, and use of hazardous materials and devices, which may prove hazardous to human life and property given the occurrence of fire or explosive events. Topics considered in the code include fire department access, fire protection and utility equipment, and fire protection water supplies, such as required water supply, fire flow, and fire hydrant systems. The goal of these regulations is to safeguard human life and property. The California Fire Code represents the official adoption of enforceable regulations pertaining to fire and hazards prevention, as adapted from the International Fire Code by the State of California.

California Fire Code Section 5306 requires that medical gas systems be stored in dedicated areas that involve no other uses or storage. Section 1103 provides fire safety requirements for existing buildings; Section 1103.7.3.1 additionally states that hospital facilities that do not have an automatic sprinkler system must provide an automatic fire alarm system that responds to the products of combustion other than heat. All buildings are also now required to provide automatic sprinkler systems.

The International Fire Code regulates fire prevention and protection, health and safety, and the safe storage and use of hazardous materials, establishing minimum fire safety requirements for new and existing buildings, facilities, and development. In establishing these requirements, consideration is given primarily to the safety of building occupants and emergency and protection personnel, as well as to the restriction of physical damage to the building, in the event of a fire, explosion, or unauthorized hazardous material incident.[29]

[28] California Department of Housing and Community Development. 2019. CALGreen Compliance. Available: www.hcd.ca.gov/building-standards/calgreen/index.shtml. Accessed May 2, 2019.

[29] California Building Standards Commission, 2016. *2016 California Fire Code: California Code of Regulations Title 24, Part 9.* Pages xii–xxv.

Local

Sacramento 2035 General Plan

The following goals and policies from the 2035 General Plan's Public Health and Safety Element related to fire protection are relevant to the proposed project, including the proposed CNU Medical Center.

Goal PHS 2.1: Fire Protection and Emergency Medical Services. Provide coordinated fire protection and emergency medical services that address the needs of Sacramento residents and businesses and maintain a safe and healthy community.

***Policy PHS 2.1.1: Fire Department Strategic Plan*.** The City shall maintain and implement a Fire Department Strategic Plan.

***Policy PHS 2.1.2: Response Time Standards*.** The City shall strive to maintain emergency response times that provide optimal fire protection and emergency medical services to the community.

***Policy PHS 2.1.3: Staffing Standards*.** The City shall maintain optimum staffing levels for sworn, civilian, and support staff, in order to provide quality fire protection and emergency medical services to the community.

***Policy PHS 2.1.4: Response Units and Facilities*.** The City shall provide additional response units, staffing, and related capital improvements, including constructing new fire stations, as necessary, in areas where a fire company experiences call volumes exceeding 3,500 in a year to prevent compromising emergency response and ensure optimum service to the community.

***Policy PHS 2.1.5: Timing of Services*.** The City shall ensure that the development of fire facilities and delivery of services keeps pace with development and growth of the City.

***Policy PHS 2.1.6: Locations of New Stations*.** The City shall ensure that new fire station facilities are located strategically throughout the City to provide optimum response times to all areas.

***Policy PHS 2.1.7: Future Station Locations*.** The City shall require developers to set aside land with adequate space for future fire station locations in areas of new development.

***Policy PHS 2.1.8: Co-Location of Facilities*.** The City shall seek to co-locate fire facilities with other City facilities, such as police stations, to promote efficient use of space and provision of fire protection and emergency medical services within dense, urban portions of the City.

***Policy PHS 2.1.10: Regional Cooperative Delivery*.** The City shall work with the various fire protection districts and other agencies to promote regional cooperative delivery of fire protection and emergency medical services.

***Policy PHS 2.1.11: Development Fees for Facilities and Services*.** The City shall require development projects to contribute fees for fire protection services and facilities.

Goal PHS 2.2: Fire Protection and Emergency Medical Services. Provide coordinated fire protection and emergency medical services that address the needs of Sacramento residents and businesses and maintain a safe and healthy community.

Policy PHS 2.2.2: Development Review. The City shall continue to include the Fire Department in the review of development proposals to ensure projects adequately address safe design and on-site fire protection and comply with applicable fire and building codes.

Policy PHS 2.2.3: Fire Sprinkler Systems. The City shall promote installation of fire sprinkler systems in new commercial and residential development, and shall encourage the installation of sprinklers in existing structures when it is reasonable and not cost prohibitive.

Policy PHS 2.2.4: Water Supply for Fire Suppression. The City shall ensure that adequate water supplies are available for fire-suppression throughout the City, and shall require development to construct all necessary fire suppression infrastructure and equipment.

Policy PHS 2.2.5: High-Rise Development. The City shall require that high rise structures include sprinkler systems and on-site fire suppression equipment and materials, and be served by fire stations containing truck companies with specialized equipment for high-rise fire and/or emergency incidents.

Although SFD does not have an official staffing ratio goal, SFD uses multiple measures to determine the need for fire protection services, which include providing one station for every 1.5-mile service radius, one station per every 16,000 residents, and one station where a company experiences call volumes exceeding 3,500 calls per year.[30]

North Natomas Community Plan

The following policy from the NNCP is applicable to the proposed project, including the proposed CNU Medical Center.

Public Health and Safety

Policy NN.PHS 1.1: Fire Protection Service. The City shall locate one-acre fire stations in the northeast corner of the Northpointe subdivision and just south of the Westside Commercial Center. Prior to development, the City Fire Department must verify that adequate fire protection services, including equipment and personnel, exists to serve the project, or will be provided, the achieve and maintain a fire insurance rating of 2.0, either through a funded program or as a condition of approval for the project. The Fire Department requires a fire station to be provided prior to 40 percent of the land being developed within the fire service area. A fire service zone identifies the primary and secondary response areas of the core fire company unit. Locating fire stations near parks is encouraged to enhance the sense of safety in the park.

[30] City of Sacramento. 2015. *City of Sacramento 2035 General Plan Draft Master Environmental Impact Report*. Page 4.10-5.

Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, impacts on fire protection services may be considered significant if implementation of the proposed project would:

- Result in substantial adverse physical impacts related to the provision of new or expanded facilities associated with fire protection, the construction of which could cause significant environmental impacts, in order to maintain acceptable service level standards or other performance objectives.

Methodology and Assumptions

The impact analysis related to fire protection services determines whether development allowed under the proposed project, including the proposed CNU Medical Center, would require new or expanded fire protection facilities, the construction of which would result in substantial adverse environmental effects. Development allowed under the proposed project could introduce new residents, as well as full-time employees through the incorporation of commercial retail and office uses, resulting in the need for additional SFD staff, facilities, and/or equipment.

This analysis uses the estimated number of calls per fire station to determine the impact of the proposed project as a whole, and the proposed CNU Medical Center specifically, on fire protection services. Although the 2035 General Plan Master EIR also draws on other thresholds, including one station for every 1.5-mile service radius and one station per every 1,000 residents, this evaluation uses call volume because call responses are not determined solely as a result of distance to the site. Several stations are located near the project area. However, the ability of any given station to respond to a particular call for service is in many ways dependent on the number of total calls to which a unit must respond.

As mentioned under *Regulatory Setting* above, 2035 General Plan Policy PHS 2.1.4 requires the City to provide additional response units, staffing, and related capital improvements when existing fire stations experience call volumes exceeding 3,500 calls per year. It is assumed that if calls for service at any of the fire stations responsible for responding to the project area exceed this threshold, another fire station (potentially a new one) would be needed to assist with the additional calls.

Impacts and Mitigation Measures

Impact 4.9-3: Implementation of the proposed project could result in adverse environmental effects related to the construction of new or expansion of existing fire protection facilities as a result of increased demand for fire protection services within the city of Sacramento.

Innovation Park PUD

The proposed project could introduce up to 3,071 residential units and 8,169 residents to the project area (see Section 3.3.2 for details of numbers), for which SFD would be responsible for the provision of fire protection services. The proposed project could also introduce up to 7,420

full-time employees to the project area through a variety of commercial retail and office land uses. This additional population could lead to an increase in the number of calls for fire protection and emergency medical services beyond the volume currently experienced by stations that serve the project area.

Development proposed by the 2035 General Plan allows for growth consistent with "Urban Center High" land uses; the Innovation Park PUD proposes to change the land use designation of the project area to "Urban Center Low." Demand for fire protection services that would result from implementation of the Innovation Park PUD is therefore already considered and accounted for in the 2035 General Plan Master EIR.

As discussed previously in the *Environmental Setting* section, Station 43 would be the "first-in" responder for development in the project area. This station received 1,951 calls for service in 2017, a volume well below the threshold of 3,500 calls per year. Stations near the project area, including Stations 30, 18, 15, and 14, would also be responsible for collectively addressing calls for service for uses in the project area. Of these stations, only Station 15 experienced a call volume exceeding the 3,500-call threshold, receiving 4,117 calls in 2017. Although this call volume could potentially suggest the need for increased fire protection resources or facilities in and of itself, Station 15 is not the "first-in" response unit for the project area, and it is one of several stations that would collectively help to serve the vicinity. Because the other four stations near the project area experienced 2017 call volumes below the 2035 General Plan threshold, taken in context, development allowed by the proposed project would not necessarily have a substantial adverse effect on SFD services. Furthermore, because the project area is located in a largely developed area of North Natomas and would not require any changes to the boundaries of SFD's service area, the location of the proposed project would not directly affect SFD response times to the project area.

Subsequent projects identified by the 2035 General Plan Master EIR include the relocation of Stations 14, 15, and 18.[31] As of 2021, construction on several of these projects has begun,[32] while the relocation of Station 15 was completed in early 2019. An additional fire station is also anticipated at one of two locations within the Railyards Specific Plan area, under the Railyards Specific Plan Update. The station is to be located either at the southeast corner of Railyards Boulevard and 7th Street, or at the northeast corner of Railyards Boulevard and 10th Street.[33] This new station would provide an additional facility to respond to calls for service in relative proximity to the project area, and improve the ratio of annual call volumes per station throughout the SFD service area.

All development in the project area would be required to meet SFD standards to ensure adequate capacity for meeting fire protection and suppression requirements, particularly those related to water supply, fire flow, fire hydrant system placement, and other design standards established in

31 City of Sacramento. 2015. *City of Sacramento 2035 General Plan Draft Master Environmental Impact Report*. Page 2-40.

32 Sacramento Fire Department. No date. *2017 Annual Report*. Page 9.

33 City of Sacramento. 2016. *Sacramento Railyards Specific Plan Update, KP Medical Center, MLS Stadium, & Stormwater Outfall Subsequent Environmental Impact Report.* SCH No. 2006032058. Certified November 16, 2016. Page 4.11-21.

the California Fire Code and California Building Standards Code. SFD would review project design plans and would be able to suggest appropriate fire prevention and protection measures for development allowed under the proposed project to comply with relevant fire protection and safety measures addressed in the California Fire Code, the California Building Standards Code, and other applicable regulations. SFD would also review project construction plans and inspect ongoing construction work relevant to the proposed project to ensure compliance with the aforementioned requirements.

In Policy 2.1.11 of the 2035 General Plan, the City requires new development in the plan area to contribute fees for the provision of fire protection services and facilities. New development in the project area would therefore contribute sales and/or property taxes, as applicable, into the City's General Fund to assist with the funding of these services.

The 2035 General Plan Master EIR did not anticipate a need for additional facilities beyond those identified as subsequent projects; therefore, no additional facilities are expected to be required to meet the fire protection needs that would result from the proposed project. As a result, no physical environmental effects associated with facility construction or operation of fire protection services would result from the proposed project. This impact would be **less than significant**.

CNU Medical Center

As mentioned previously, the proposed CNU Medical Center would introduce an additional population to the project area by creating approximately 7,420 full-time jobs in the commercial, retail, office, educational, and healthcare sectors. These nonresidential uses would also increase demand for fire protection services in the project area. However, no additional nonresidential calculation is included in the residentially focused calculations for demand for fire protection services, because the staffing ratios referenced above are used to capture all fire protection demand in the City of Sacramento.

The aforementioned nonresidential uses and employment that would be introduced through implementation of the proposed CNU Medical Center would increase the demand for fire protection services in the project vicinity. Furthermore, the operation of the proposed CNU Medical Center may require additional fire protection services for emergencies. However, in accordance with Policy 2.1.11 of the 2035 General Plan, all new commercial uses developed in the project area, including those that would be incorporated into the CNU Medical Center facilities, would be required to contribute to the funding of fire protection services via the General Fund through a combination of sales and/or property taxes. SFD would be responsible for providing fire protection and emergency response services for the CNU Medical Center. Three existing SFD fire stations—Station 43, Station 30, and Station 18—are located within 2 miles of the proposed Center, and could respond to emergencies at the site.

The proposed CNU Medical Center would be home to more than 1,250 people living on-site, including 600 students, 550 staff and faculty members plus their families, and 200 residents of the active senior living building. These residential units would result in an increased demand for fire protection services. However, as the proposed project would comply with General Plan policies related to police protection services, and because additional services to accommodate the

expansion of staff and services have been identified within the 2035 General Plan EIR, sufficient fire protection services would be provided to serve the increase in demand resulting from implementation of the proposed CNU Medical Center.

Furthermore, the project area is currently designated as an Urban Center High land use but would be designated Urban Center Low under the proposed project. Demand for fire protection services that would result from implementation of the CNU Medical Center is therefore already considered and accounted for in the 2035 General Plan Master EIR. No additional fire protection facilities are anticipated to serve the CNU Medical Center. The impact of the proposed CNU Medical Center on fire protection services would be **less than significant**.

Mitigation Measure

None required.

Cumulative Impacts

The impact of the proposed project, including the CNU Medical Center, on fire protection and emergency medical services must be analyzed in conjunction with past, present, and future development projects that could contribute to the impacts of the proposed project and create cumulative impacts. The geographic context for the analysis of cumulative impacts on fire protection is represented by the service area boundary of SFD, which coincides with the Sacramento city limits. However, the following cumulative impact analysis for fire protection services focuses on the portions of the city that lie within the NNCP area.

Impact 4.9-4: Implementation of the proposed project, in combination with other development, could result in the need for construction of additional or expansion of existing fire protection facilities to accommodate a potential increase in cumulative demand for fire protection services within the City of Sacramento.

The proposed project, including the proposed CNU Medical Center, could contribute up to 8,169 new residents to the NNCP area. The project would also include commercial retail and office uses that could introduce as many as 7,420 full-time employees to the city of Sacramento. As discussed in the City's 2013–2021 Housing Element, the NNCP area is projected to experience an 28.6 percent growth rate between 2020 and 2035 a nd to reach a population of 89,025 residents in 2035.[34] Furthermore, the Housing Element projects that the city of Sacramento's population will reach 640,381[35] residents by 2035 under full buildout of the 2035 General Plan, representing a 36 percent increase of residents over the 2018 population count of 513,624 residents.[36] This growth would create an additional need for fire protection services both in the NNCP area and throughout the city of Sacramento.

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34 City of Sacramento. 2013. *City of Sacramento 2013–2021 Housing Element*. Adopted December 17, 2013. Page H 3-6.

35 City of Sacramento. 2013. *City of Sacramento 2013–2021 Housing Element*. Adopted December 17, 2013. Page H 3-3.

36 U.S. Census Bureau. 2021. QuickFacts. Available: https://www.census.gov/quickfacts/fact/table/sacramentocitycalifornia#. Accessed July 23, 2021.

The 2035 General Plan Master EIR identified 12 subsequent SFD projects that involved the relocation and reconstruction of five existing fire stations, the demolition and construction of three stations, and the construction of five new facilities, including four stations and one fire administration, training, and logistics center.[37] As of 2018, the renovation of six stations had been completed, and construction at multiple stations had begun.38 Since that time, the construction of at least one planned station relocation has also been completed. Potential impacts associated with construction of these facilities were evaluated programmatically in the 2035 General Plan Master EIR.

2035 General Plan Policies PHS 2.1.2 through 2.1.5, developed in accordance with Goal PHS 2.1, are designed to ensure the maintenance of adequate staffing and facilities to serve the City of Sacramento under full buildout of the plan. Policies PHS 2.1.6 through 2.1.10 are intended to strategically place new fire stations; to co-locate fire protection facilities, staff, and services in a manner that facilitates efficiency and cooperation among other City facilities and regional fire protection agencies; and to incorporate the use of technological advancements that aid in the delivery of efficient, cost-effective fire protection and emergency medical response services.

Policy PHS 2.1.1 mandates City creation and implementation of a fire department strategic plan to appropriately manage the provision of fire services within the Sacramento City limits in accordance with the previously mentioned General Plan policies. The current strategic plan includes strategies to address staffing and facility needs, dispatch strategies, and service goals.[39] If new or additional facilities beyond those identified as subsequent projects in the 2035 General Plan Master EIR are needed, they likely would be developed on property identified in the General Plan for urban development and evaluated in the 2035 General Plan Master EIR. Therefore, the contribution of the proposed project on the need for construction of new or expansion of existing fire protection facilities would not be cumulatively considerable; as such, this impact would be **less than significant**.

Mitigation Measure

None required.

4.9.3 Public Schools

Introduction

This section describes public school services provided in the project vicinity. Potential impacts of the proposed project on public schools are evaluated based on whether residential growth in the project area would create a demand for schools that would exceed the current or projected

[37] City of Sacramento. 2015. *City of Sacramento 2035 General Plan Draft Master Environmental Impact Report*. Page 2-40.

[38] Sacramento Fire Department. No date. *2017 Annual Report*. Page 9.

[39] City of Sacramento Fire Department. No date. *2012-2017 Community-Driven Strategic Plan*. Page 29.

capacity such that new school facilities would need to be constructed. Existing plans and policies relevant to schools are also provided.

The primary sources of the data referenced during the preparation of this section include the Sacramento 2035 General Plan and Background Report, the 2035 General Plan Master EIR, California Department of Education enrollment data, the Natomas Unified School District (NUSD) School Facilities Needs Analysis, and information provided by the NUSD website.

In total, 22 comments relating to public schools were received during the NOP comment period for this EIR. Of these, 21 comments were made by North Natomas residents, citing concerns about impacts on schools, including full school capacities, large class sizes, and overcrowded classroom facilities, as well as a desire for additional school facilities. One comment letter was received from NUSD, expressing curiosity about the types of housing that could be created as a result of the proposed project and the relationship between the proposed project and the 2035 General Plan Update. The comment also expressed interest in coordinating with the City of Sacramento to determine the feasibility of a school site within the project area. These comments are addressed in the subsection below.

Environmental Setting

Natomas Unified School District

The project area falls entirely within the boundaries of NUSD. NUSD currently operates 20 schools:

- Five elementary schools, all of which serve grades K–5 and one of which is a charter school.
- Six K–8 schools, one of which is a charter school.
- Two middle schools, one of which is a charter school.
- Five high schools, one of which is a charter school, with three schools serving grades 9–12 and one school serving grades 6–12.
- One charter school serving grades K–12.
- One school that is operated as a virtual academy.[40]

In 2020–2021, NUSD had an enrollment of 8,116 elementary school students (K–6), 2,440 middle school students (7-8), and 5,130 high school students (9–12) for a district total of 15,686 enrolled students.[41] **Table 4.9-5** lists enrollment and capacity data for NUSD by school level.

[40] Natomas Unified School District. 2021. Our Schools. Available: https://natomasunified.org/about-our-schools/#. Accessed July 22, 2021.

[41] California Department of Education. 2021. 2020-21 K-12 Enrollment by Age Group and Grade: Natomas Unified Report (34-75283). Available: https://dq.cde.ca.gov/dataquest/dqcensus/EnrAgeGrd.aspx?cds=3475283&agglevel=district&year=2020-21. Accessed July 23, 2021.

TABLE 4.9-5
NATOMAS UNIFIED SCHOOL DISTRICT SCHOOLS, ENROLLMENT, AND CAPACITIES

School Level [b]	2019–2020 Facilities Design Capacity	2019–2020 Student Enrollment	Excess/Capacity
Elementary School (Grades K–6)	9,273	8,116	1,157
Middle School (Grades 7–8)	3,005	2,440	565
High School (Grades 9–12)	5,066	5,130	(64)
Total	17,344	15,686	1,658

NOTES:
[a] Student enrollment for this calculation was taken from October 2020.
b Natomas Unified School District (NUSD) operates elementary schools that serve grades K–5 and middle schools that serve grades 6–8. To compare this capacity and enrollment consistent with State Allocation Board Form 50-02, the NUSD school-level configuration was altered for the purposes of this calculation.

SOURCE: Cooperative Strategies. 2021. *Natomas Unified School District School Facilities Needs Analysis*. February 16, 2021. Page 20.

Schools Serving the Project Area

The project area is situated within the attendance areas for H. Allen Hight Elementary School (grades Transitional Kindergarten–5), 3200 N. Park Drive; Natomas Middle School (grades 6–8), 3200 N. Park Drive; and Inderkum High School (grades 9–12), 2500 N. Market Drive.[42] Through the open enrollment process, students living within the boundaries of NUSD could also apply for enrollment at other NUSD schools, depending on the availability of enrollment capacity at those facilities.

Table 4.9-6 presents enrollment and capacity data for the schools that serve the project area.

TABLE 4.9-6
NATOMAS UNIFIED SCHOOL DISTRICT SCHOOLS, ENROLLMENT, AND CAPACITIES IN THE PROJECT AREA

School Name	Design Capacity[1]	Current Enrollment[2]	Excess Capacity
H. Allen Hight Elementary School	1,320	698	622
Natomas Middle School	1,131	661	470
Inderkum High School	2,146	2,316	-170

SOURCE:
1 City of Sacramento. 2015. *City of Sacramento 2035 General Plan Background Report.* Adopted March 3, 2015. Page 5-69.
2 California Department of Education. 2021. 2020-21 K-12 Enrollment by Age Group and Grade: Natomas Unified Report (34-75283). Available: https://dq.cde.ca.gov/dataquest/dqcensus/EnrAgeGrd.aspx?cds=3475283&agglevel=district&year=2020-21. Accessed July 23, 2021.

42 Natomas Unified School District. 2021. My School Locator. Available: https://betalocator.decisioninsite.com/?StudyID=215762#. Accessed July 22, 2021.

Regulatory Setting

Federal

No federal regulations regarding public schools are relevant to the proposed project, including the proposed CNU Medical Center.

State

California School Facility Program

Proposition 1A/Senate Bill (SB) 50 (Chapter 407, Statutes of 1998) is a school construction funding measure that was approved by voters on the November 3, 1998 ballot. SB 50 created the School Facility Program, enabling eligible school districts to obtain state bond funds. State funding requires matching local funds that generally come from developer fees. The passage of SB 50 eliminated the ability of cities and counties to require full mitigation of school impacts and replaced it with the ability of school districts to assess fees directly to offset the costs associated with increasing school capacity as a result of new development. The old "Stirling" fees were incorporated into SB 50 and are referred to as *Level 1 fees*.

As of January 2012, the State Allocation Board authorized an adjustment to the Statutory School Fee amounts (Level 1 fees) for unified school districts pursuant to Government Code Section 65995(b)(3), to $3.20 per square foot for new residential development and $0.51 per square foot for commercial and industrial (nonresidential) development. Districts meeting certain criteria may collect Level 2 fees as an alternative to Level 1 fees. Level 2 fees are calculated under a formula identified in SB 50. Level 3 fees are approximately double Level 2 fees and are implemented only when the State Allocation Board is not apportioning state bond funds.

The passage of Proposition 51 on November 8, 2016, authorized an additional $9 billion in general obligation bonds for the construction and modernization of schools across California. Although SB 50 states that payment of developer fees is "deemed to be complete and full mitigation" of the impacts of new development, fees and state funding do not fully fund new school facilities.

California Education Code

The California Education Code authorizes the California Department of Education (CDE) to develop site selection standards for school districts. These standards, found in the California Code of Regulations, require that districts select a site that conforms to certain net acreage requirements established in CDE's 2000 *School Site Analysis and Development* guidebook. The guide includes the assumption that the land purchased for school sites would be in a ratio of approximately 2 to 1 between the developed grounds and the building area. For example, for a school that houses kindergarten through 6th grade and has an enrollment of 600 children, the recommended acreage is 9.2 acres.

CDE's 2000 guide includes exceptions to its recommended site size that allow smaller school sites. Additionally, CDE has a policy stating that if the "availability of land is scarce and real estate prices are exorbitant," the site size may be reduced. It is CDE's policy that if a school site is less than the recommended acreage required, the district shall demonstrate how the students

would be provided an adequate educational program including physical education as described in the district's adopted course of study. Through careful planning, a school site with a reduced project area could follow the recent trend of school downsizing and meet CDE's criteria.

California Code of Regulations

CCR Title 5, Division 1, Chapter 13, Subchapter 1, Article 2 outlines minimum requirements for the placement of schools, and specifically addresses the placement of school sites near railroad tracks, as shown below.

> **Section 14010. Standards for School Site Selection**
>
> All districts shall select a school site that provides safety and that supports learning. The following standards shall apply:
>
> d. If the proposed site is within 1,500 feet of a railroad track easement, a safety study shall be done by a competent professional trained in assessing cargo manifests, frequency, speed, and schedule of railroad traffic, grade, curves, type and condition of track, need for sound or safety barriers, need for pedestrian and vehicle safeguards at railroad crossings, presence of high pressure gas lines near the tracks that could rupture in the event of a derailment, preparation of an evacuation plan. In addition to the analysis, possible and reasonable mitigation measures must be identified.
>
> **Section 14011. Procedures for Site Acquisition State-Funded School Districts**
>
> A state-funded school district, before acquiring title to real property for school use, shall obtain written approval from the California Department of Education.

Among the findings that must be made under Section 14011 is that the school site does not contain a natural gas line.

Local

Sacramento 2035 General Plan

The following goals and policies from the 2035 General Plan's Education, Recreation, and Culture Element related to public schools and education are relevant to the proposed project, including the proposed CNU Medical Center.

> **Goal ERC 1.1: Efficient and Equitable Distribution of Facilities.** Provide efficient and equitable distribution of quality educational facilities for life-long learning and development of a highly skilled workforce that will strengthen Sacramento's economic prosperity.
>
> ***Policy ERC 1.1.1: School Locations*.** The City shall work with school districts at the earliest possible opportunity to provide school sites and facilities that are located in the neighborhoods they serve.
>
> ***Policy ERC 1.1.2: Locational Criteria*.** The City shall continue to assist in reserving school sites based on each school district's criteria and the school siting guidelines of the California Department of Education and on the City's following location criteria:
>
> - Locate elementary schools on sites that are safely and conveniently accessible, and away from heavy traffic, excessive noise, and incompatible land uses.

- Locate school sites centrally with respect to their planned attendance areas.
- Locate schools in areas where established and/or planned walkways, bicycle paths, or greenways link schools with surrounding uses.
- Locate, plan, and design new schools to be compatible with adjacent uses.

Policy ERC 1.1.3: Schools in Urban Areas. The City shall work with school districts in urban areas to explore the use of existing smaller sites to accommodate lower enrollments, and/or higher intensity facilities (e.g., multi-story buildings, underground parking, and playgrounds on roofs).

North Natomas Community Plan

The following policies from the NNCP are applicable to the proposed project, including the proposed CNU Medical Center.

Land Use and Urban Design: Planned Unit Developments (PUD) Policies

Policy NN.LU 1.6: Neighborhoods–Schools. The City shall locate an elementary school as the focal point near the center of each neighborhood serving 1,500 to 3,000 dwelling units.

Education, Recreation, and Culture: Civic Uses

Policy NN.ERC 1.5: Coordination with School Districts. Prior to the approval of any rezoning or land use entitlements for residential land use within the Plan area, the applicant shall enter into an agreement with the appropriate school district(s) that will ensure the provision of adequate school facilities to serve the residential dwelling units when needed. The appropriate school district and the building community will cooperate in drafting a financing plan that will address the provisions of adequate school facilities to serve the planned residential areas when needed. The Plan will consider Mello-Roos financing and Impaction Fees among other possible sources of funds.

Overlay Zone with Compatible Underlying Zone: The Institution (I) zone is an overlay zone with an underlying zone. The underlying zone is compatible with adjacent parcels. For example, "IIMD" is an institution zone with a medium-density residential underlying zone that would likely be adjacent to other residential uses.

Sunset Clause: For institutional uses, the time period allowed to develop one of the institutional uses on a specific property is five years from the date that an adjacent parcel obtains a certificate of occupancy or final building inspection. After the five years has elapsed without approval of an institutional use project on the site, the site may be designated to the underlying zone and be developed with the proper Special Permits.

Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, impacts on public schools may be considered significant if implementation of the proposed project would:

- Generate students that would exceed the design capacity of existing or planned schools that would result in the need for new or physically altered school facilities, the construction of which could cause substantial adverse physical environmental impacts.

Methodology and Assumptions

Student generation rates to calculate potential future student generation resulting from implementation of the proposed project were taken from the NUSD School Facilities Needs Analysis. **Table 4.9-7** provides details regarding student generation in the project area.

TABLE 4.9-7
STUDENT GENERATION RATES FOR SINGLE-FAMILY DETACHED, SINGLE-FAMILY ATTACHED, AND MULTI-FAMILY UNITS IN THE PROJECT AREA

School Level	Single-Family Detached Student Generation Rates [a]	Single-Family Attached Student Generation Rates [a]	Multi-family Student Generation Rates [a]
Elementary School	0.1887	0.1000	0.1400
Middle School	0.0885	0.0571	0.0700
High School	0.1141	0.0500	0.0800
Total	0.3913	0.2071	0.2900

NOTES:
[a] Analysis for Folsom Cordova Unified School District dated March 2019.

SOURCE: Cooperative Strategies. 2021. *Natomas Unified School District School Facilities Needs Analysis*. February 16, 2021. Pages 10–12.

The identified design capacities of a particular school may not accurately predict or reflect the actual maximum design capacity that NUSD could accommodate, because design capacity totals are calculated on the assumption that every classroom at a school site would be used as a regular teaching classroom. However, school sites may have programs that use classrooms for alternative purposes within the academic program, including computer labs, arts instruction, student development rooms, etc. These alternative uses may reduce the number of classrooms available for regular teaching purposes. Design capacity totals also do not reflect grade-by-grade and year-by-year analysis, and may not accurately represent true capacity at a given time. Because the types of residential units that could be introduced by the proposed project are not currently established, this analysis conservatively uses SFD student generation rates, which represent the highest student generation rates.

Student enrollment levels may shift over time depending on the demographics of residential areas within the attendance zones of each school, and may also be influenced by individual families' decisions to send students to magnet schools, private schools, or open-enrollment schools in other districts.

Impacts and Mitigation Measures

Impact 4.9-5: Implementation of the proposed project could result in adverse environmental effects related to the construction of new or expansion of existing public school facilities as a result of increased demand for public school services within the city of Sacramento.

Innovation Park PUD

Based on a potential introduction of up to 3,071 residential units, the proposed project could generate 968 students: 467 elementary school students, 219 middle school students, and 282 high school students (**Table 4.9-8**).

TABLE 4.9-8
STUDENT GENERATION ASSOCIATED WITH THE PROPOSED PROJECT

School Level	Student Generation Rate [a]	Number of Dwelling Units	Students Generated
Elementary School	0.1887	2,475	467
Middle School	0.0885	2,475	219
High School	0.1141	2,475	282
Total	**–**	**–**	**968**

NOTE:

[a] Because the particular types of units that could be developed as a result of the Innovation Park Planned Unit Development are not currently known, the most conservative student generation rates (i.e., for single-family detached units) was implemented in these calculations.

SOURCE: Cooperative Strategies. 2020. *Natomas Unified School District School Facilities Needs Analysis*. February 6, 2020. Page 10.

H. Allen Hight Elementary School is currently 622 students below its design capacity, meaning that all of the 467 elementary school students who could potentially be generated by the proposed project could be immediately served by this existing elementary school.

Furthermore, the proposed project could potentially include development of a STEM-based pre-kindergarten through 5th grade school on Parcel B of the project area, operating under the auspices of NUSD. Policies ERC 1.1.1 and ERC 1.1.2 of the 2035 General Plan require that the City work with school districts at the earliest available opportunity to provide school sites and facilities located within the neighborhoods they serve, in a manner consistent with both CDE's school siting guidelines and the criteria of the individual districts. Policy ERC 1.1.3 requires that the City work with school districts in urban areas to explore the use of existing smaller sites to accommodate lower enrollments and/or higher intensity facilities. Therefore, a specific site for this proposed school facility has not yet been identified; however, the facility could potentially be situated in the northern portion of District B, adjacent to Sports Parkway and the proposed Innovator Drive, to accommodate vehicular trips associated with student drop-offs and pick-ups. This proposed school facility would also serve the elementary school students who could potentially be generated by the proposed project.

Natomas Middle School is currently 470 students below its design capacity; thus, all 219 middle school students who could be generated by the proposed project could be immediately served by this existing middle school.

Inderkum High School is currently 170 students beyond its design capacity, and development under the proposed project could generate up to 282 additional high school students in the area. Other high schools in the NUSD service area, but outside of the attendance area for the project area, could offer additional capacity for these new students; however, the increased number of high school students introduced by the proposed project would exacerbate existing enrollment conditions in the district.

In accordance with SB 50, all new development that would result from the proposed project would be required to pay applicable school fees. Current rates for these fees in NUSD are $4.56 per square foot for Level II Residential development, and $0.66 per square foot for Level I Commercial development.[43] These fees are considered full and adequate mitigation for impacts on public schools. Moreover, NNCP Policy NN.ERC 1.5 requires that prior to the approval of any rezoning for any residential land use within the NNCP area, the applicant and the relevant school district(s) shall enter into an agreement to ensure that adequate school facilities to serve the residential units are provided when needed, and that a financing plan to assure the funding of those facilities is drafted when needed. For these reasons, impacts on public schools resulting from implementation of the proposed project would be **less than significant**.

If NUSD were to accommodate student enrollments resulting from the proposed project by coordinating with the City of Sacramento to expand existing school facilities or create new school sites, the construction and operation of those individual projects could introduce additional environmental impacts. Those environmental impacts would depend on the individual characteristics of the school facilities being developed; however, until those factors are definitively known, evaluating those impacts within the scope of this EIR is purely speculative. Therefore, expanded and new public school facilities would be subject to environmental review by NUSD pursuant to CEQA whenever those projects become relevant.

CNU Medical Center

The proposed CNU Medical Center would develop 300 student dormitory units to house an anticipated 600 students on the CNU Medical Center site. These 600 students would be enrolled at CNU and would not affect public school services in the region. Implementation of the proposed CNU Medical Center would not generate any school-age students or create any demand for public schools. Thus, the proposed CNU Medical Center would also not result in a need for construction or expansion of public school facilities beyond what was anticipated in the 2035 General Plan. Implementation of the proposed CNU Medical Center would therefore result in **no impact** on public school services.

[43] Natomas Unified School District. 2021. Developer Fee Information and Reporting. Available: https://natomasunified.org/departments/facilities-strategic-planning/annual-five-year-developer-fee-reports/. Accessed July 22, 2021.

Mitigation Measure

None required.

Cumulative Impacts

The impact of the proposed project, including the proposed CNU Medical Center, on public schools must be analyzed in conjunction with past, present, and future development projects that could contribute to the impacts of the proposed project and create cumulative impacts. The geographic context for the analysis of cumulative impacts on public school services is the city of Sacramento, and specifically the NUSD service area.

Impact 4.9-6: Implementation of the proposed project, in conjunction with other development, could result in the provision of or need for increased demand for public school services within the city of Sacramento.

Although the discussion of Impact 4.9-5, above, concluded that the impact of the proposed project on public schools would be less than significant, enrollment in the NUSD service area would increase as a result of increased development in the project area and buildout of the 2035 General Plan (Table 4.9-7). The 2035 General Plan Master EIR concluded that although certain districts, including NUSD and Sacramento City Unified School District (SCUSD), were operating at approximately 70 percent capacity, other districts within the plan area, such as Robla School District, were operating at approximately 98 percent capacity.[44] Additionally, the 2035 General Plan Master EIR identified certain schools in three of the school districts serving the 2035 General Plan area that were operating at or above design capacity: five schools in SCUSD, 35 schools in Twin Rivers Unified School District, and 23 schools in Elk Grove Unified School District. Under the 2035 General Plan, new and expanded facilities were anticipated within SCUSD, Elk Grove Unified School District, NUSD, and potentially Robla School District.

Student enrollment in the city of Sacramento and the NUSD service area will increase and decrease at individual schools with demographic changes within individual neighborhoods and school districts. These enrollment levels at elementary, middle, and high schools will shift as students age, and are also dependent on the decisions of the students and their families to participate in their locally serving public schools, versus private school, magnet school, or open-enrollment opportunities.

Furthermore, school districts may respond to changes in student enrollment with temporary measures to manage these levels. These measures may include but are not limited to installing temporary classroom facilities, temporarily transferring students to other schools with additional capacity, and splitting grade levels. Any construction activities required to install temporary classrooms are not expected to result in significant environmental impacts because school sites in the NUSD service area have been previously disturbed and are located in urban environments.

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[44] City of Sacramento. 2015. *City of Sacramento 2035 General Plan Draft Master Environmental Impact Report*. Page 4.10-10.

Policies ERC 1.1.1, ERC 1.1.2, and ERC 1.1.3 in the 2035 General Plan pertain to efficient and equitable distribution of school facilities, and seek to guarantee that the General Plan area contains adequate school facilities to match pace with the city's anticipated growth. In accordance with SB 50, project applicants across school districts, including NUSD, must pay established school impact fees to offset any potential impacts on public schools resulting from new development. The payment of these fees is deemed full and complete mitigation for impacts on public school services, and all development in the project area would be required to pay these fees. As a result, the contribution of the proposed project on the need for the provision of new or expansion of existing public school facilities would not be cumulatively considerable, and this impact would be **less than significant**.

Mitigation Measure

None required.

4.9.4 Parks and Open Space

Introduction

This section discusses the effects of the proposed project on parks and open space. Existing parks, open space, and recreational facilities in the project vicinity are documented. The section also examines the potential need for expansion or enhancement of existing facilities or construction of new facilities. The evaluation addresses the potential effects of implementing the proposed project, including the proposed CNU Medical Center, on parks and open space resources in the vicinity of the project area, and analyzes the relationship of the project to applicable goals and policies of local park-related plans.

The primary sources of the data referenced during the preparation of this section include the Sacramento 2035 General Plan and Background Report, the 2035 General Plan Master EIR, the City of Sacramento Parks and Recreation Master Plan 2005–2010: 2009 Technical Update, the City of Sacramento Department of Youth, Parks, and Community Enrichment 2018–2023 Strategic Plan, the City of Sacramento Parks Directory, and YPCE personal communications.

In total, 13 comments related to parks and recreational facilities were received during the NOP comment period for this EIR, citing a desire for additional parks and open spaces in Natomas, as well as a need for recreational facilities for children and youth.

Environmental Setting

City Parks

The City of Sacramento Department of Youth, Parks, and Community Enrichment (YPCE) is responsible for managing 230 parks and recreational facilities within the Sacramento city limits,

consisting of more than 4,829 acres of developed parkland.[45] Parks are classified according to function and targeted service areas as one of the following:

- **Neighborhood Parks—**Small parks up to 10 acres in size, serving residents and employees within a radius of one-half mile. These park facilities should be located where access is not limited by major physical barriers and is free of wetland/development restrictions, and should be on secondary streets with residential homes facing the park. Typical facilities include tot lots or adventure areas, unlighted sports fields or courts, group picnic areas with shade structures, walkways, and public art.

- **Community Parks—**Mid-size parks ranging from 10 to 60 acres in size, serving residents and employees within a 2- to 3-mile radius. These park facilities should be located where they are free of development restrictions, could be jointly used with detention basins or school sites, and are located on primary collector streets near public transportation. Typical facilities include those found in neighborhood parks, in addition to community centers, large group picnic areas, shade structures, community gardens, nature areas, dog parks, lighted sports fields or sports courts, skate parks, water elements, restrooms, and on-site parking.

- **Citywide/Regional Parks**—Parks that vary in size but tend to be larger than community parks, and serve residents, employees, and visitors from throughout the city and beyond. These park facilities should be located adjacent to major public transportation facilities. Typical facilities include regional open spaces or recreational amenities, such as aquatic facilities, sports complexes, marinas, golf courses, and zoos.[46] Parkways are used primarily as corridors for pedestrians and bicyclists, linking residential areas to schools, parks, and multi-use trail systems. Parkways are typically linear and narrow and may be situated along waterways, abandoned railroads, or other common corridors.

- **Open Space Areas—**Natural areas that are set aside primarily to enhance or protect the city's environmental amenities.[47] Recreational use of these spaces is typically passive and may facilitate interaction with the natural features of the space.

The city parks contain a variety of recreational facilities that support active sports, including soccer fields, baseball and softball diamonds, tennis courts, volleyball courts, pickleball, futsal courts, disc golf, foosball, and basketball courts. Additional recreational facilities include community centers, bocce ball courts, and equestrian trails. Natural habitat, lakes, turf areas, benches, picnic tables, playgrounds, and barbecue pits are available for informal passive recreation activities. There are many areas for residents of all abilities and ages in the city's parks, from youth to older adults. Shared use paths also exist across the city's many parks and natural areas. In addition, swimming pools, wading pools, and splash pad facilities are available to the public in certain parks.

YPCE also provides community services as well as recreational and leisure-time opportunities. YPCE offers adult and youth sports classes, special events, and after-school, summer, and aquatic

[45] City of Sacramento Youth, Parks, and Community Enrichment (YPCE). September 30, 202 – personal communication with Dana Repan, Senior Planner at City of Sacramento YPCE. *2018–2023 Strategic Plan*. Revised September 2018. Page 8.

[46] City of Sacramento Youth, Parks, and Community Enrichment. 2018. *2018–2023 Strategic Plan*. Revised September 2018. Page 8.

[47] City of Sacramento. 2015. *City of Sacramento 2035 General Plan Background Report*. Adopted March 3, 2015. Page 5-30.

programs, as well as community classes and enrichment programs, and coordinates reservations for baseball, soccer, and softball fields, picnics, and associated facilities.

City Parks near the Project Area

A total of 48 parks are managed by YPCE in North Natomas, with multiple parks situated either partially or completely within one-half mile of the project area, including Linden Park, River Birch Park, North Natomas Regional Park, Kokomo Park, Harrier Park, and the planned Airfield Park, construction of which is anticipated to be complete by Spring 2022 (**Table 4.9-9**). Amenities in these various parks include: a multi-purpose turf field, shade structures with picnic tables, playgrounds and play structures, turf volleyball courts, baseball and softball fields, dog parks, basketball courts, intermediate soccer fields, horseshoe courts, a fitness station, multi-use open spaces, a stage and lawn amphitheater, a water spray play area, bike trails and racks, restroom facilities, walkways, and landscaping.

TABLE 4.9-9
CITY PARKS IN THE PROJECT VICINITY

Park Facility Name	Location	Park Size (square acres)
Existing Parks		
Harrier Park	4500 Duckhorn Drive	0.82
Kokomo Park	4901 Kokomo Drive	6.98
Linden Park	4001 Innovator Drive	4.99
North Natomas Regional Park	4989 Natomas Boulevard (lake and detention basin), 2501 New Market Drive (ball field complex and dog parks)	212.31
River Birch Park	2000 Terracina Drive	21.36
Planned Parks		
Airfield Park	3828 Samuelson Way	9.4

SOURCE: City of Sacramento. 2021. North Natomas Park Directory. Available: www.cityofsacramento.org/ParksandRec/Parks/Park-Directory/North-Natomas. Accessed July 21, 2021.

The parks nearest the project area are River Birch Park (approximately 0.12 mile east of the project area), Harrier Park (approximately 0.12 mile west of the project area), Linden Park (approximately 0.25 mile south of the project area), and North Natomas Regional Park (approximately 0.30 mile north of the project area).

The Fisherman's Lake Parkway and Open Space is also located in the vicinity of the project area. This area, which includes 35.40 acres of designated parkway and open space, is bounded broadly by Del Paso Road to the north, the Natomas Central residential area to the east, and unincorporated portions of Sacramento County to the south and west.

City of Sacramento Park Impact Fee Nexus Study Update

The City's 2017 Park Impact Fee (PIF) Nexus Study Update (Resolution No. 2017-0070) provides the legal and policy basis for imposing a PIF on new residential and nonresidential development in the city. These fees are updated periodically to adjust for inflation and changes in

parkland acreage. The City's PIF focuses on funding the development of neighborhood and community parks through the imposition of park development impact fees on new residential and nonresidential development in order to meet a citywide goal of 5 acres of parkland per 1,000 residents, which is based on the level of service goal of 3.5 acres of neighborhood and community parks (consisting of 1.75 acres of each park type) per 1,000 residents in the portions of the city located outside of the Central City (1.75 acres per 1,000 residents in the Central City) and on the level of service goal of 1.5 acres of regional parks per 1,000 residents. The PIF is also designed to fund the development of regional parks and the improvement of existing regional parks through the buildout and enhancement of facilities. However, the PIF funding structure provides for only 1.5 acres per 1,000, and the city's goal is to provide regional parkland at 8 acres per 1,000 residents. The total regional parkland acquisition is not included in this PIF, and other types of park facilities (e.g., community centers, outdoor pools, and linear parks and parkways) are also not funded through this mechanism.[48]

Meeting the level of service policy standard of 3.5 acres per 1,000 residents for neighborhood and community parks is considered a high priority in areas that predominantly residential. This prioritization is largely related to the role of neighborhood and community parks, as they are intended to serve geographically defined areas of the city and are designed to be located within one-half mile of a residential neighborhood. Citywide amenities and regional parks, on the other hand, are designed at a scale to serve the city's entire population.[49] As such, their catchment area spans the entire city and thus does not require any specific geographic location.

Existing neighborhood and community parks represent approximately 2,099 acres of the 3,400 acres of parkland within the Sacramento city limits. Using the 2035 population estimate of 640,381 residents projected for the city under full buildout of the General Plan provides a service level of approximately 3.3 acres of neighborhood and community parkland per 1,000 residents, and 5.3 acres of total citywide/regional parks per 1,000 residents.

Regulatory Setting

Federal

No federal regulations regarding parks and open spaces are relevant to the proposed project, including the proposed CNU Medical Center.

State

Public Park Preservation Act of 1971

The primary instrument for protecting and preserving parkland is the Public Park Preservation Act of 1971 (Public Resources Code Division 5, Chapter 2.5). This law states that no public agency may acquire land in use as a public park for the purpose of non-park use, unless the party seeking acquisition either offers sufficient financial compensation or transfer of land, or both, such that the acquired parkland may be appropriately replaced. This provision applies even when the operating party and party seeking acquisition are represented by the same agency; it seeks to prevent any net loss of parkland and park facilities.

48 City of Sacramento. 2016. *City of Sacramento Park Impact Fee Nexus Study Update*. Page 2.
49 City of Sacramento. 2016. *City of Sacramento Park Impact Fee Nexus Study Update*. Page 2.

Quimby Act

California Government Code Section 66477, the Quimby Act, operates within the Subdivision Map Act to authorize local municipalities to impose in-lieu fees or to require the dedication of land, or both, for park or recreation purposes. Land or compensation dedicated in this manner is to be used only to develop new or refurbish existing neighborhood or community park or recreation facilities according to the conditions of the Quimby Act. The fees or land dedication requirements imposed may vary according to a range of factors, including parkland size and the density of surrounding residential development.

Local

Sacramento 2035 General Plan

The following goals and policies from the 2035 General Plan's Education, Recreation, and Culture Element related to parks and recreation are relevant to the proposed project, including the proposed CNU Medical Center.

Goal ERC 2.2: Parks, Community and Recreation Facilities and Services. Plan and develop parks, community and recreation facilities, and services that enhance community livability; improve public health and safety; are equitably distributed throughout the City; and are responsive to the needs and interests of residents, employees, and visitors.

Policy ERC 2.2.2: Timing of Services. The City shall ensure that the development of parks and community and recreation facilities and services keeps pace with development and growth within the City.

Policy ERC 2.2.3: Service Level Radius. The City shall strive to provide accessible public park[s] or recreational open space within one-half mile of all residences.

Policy ERC 2.2.5: Meeting Service Level Goal. The City shall require new residential development to meet its fair share of the park acreage service level goal by either dedicating land for new parks, paying a fair share of the costs for new parks and recreation facilities or renovation of existing parks and recreation facilities. For new development in urban areas where land dedication or acquisition is constrained by a lack of available suitable properties (e.g., the Central City), new development shall either construct improvements or pay fees for existing park and recreation enhancements to address increased use. Additionally, the City shall identify and pursue the best possible options for park development, such as joint use, regional park partnerships, private open space, acquisition of parkland, and use of grant funding.

Policy ERC 2.2.6: Urban Park Facility Improvements. In urban areas where land dedication is not reasonably feasible (e.g., the Central City), the City shall explore creative solutions to provide neighborhood park and recreation facilities (e.g., provision of community-serving recreational facilities in regional parks) that reflect the unique character of the area.

Policy ERC 2.2.9: Small Public Places for New Development. The City shall allow new development to provide small plazas, pocket parks, civic spaces, and other gathering places that are available to the public, particularly in infill areas, to help meet recreational demands.

Policy ERC 2.2.10: Range of Experience. The City shall provide a range of small to large parks and recreational facilities. Larger parks and complexes should be provided at the City's edges and along the rivers as a complement to smaller sites provided in areas of denser development.

Policy ERC 2.2.12: Compatibility with Adjoining Uses. The City shall ensure that the location and design of all parks, recreation, and community centers are compatible with existing adjoining uses.

Goal ERC 2.5: *Funding*. Secure adequate and reliable funding for the acquisition, development, rehabilitation, programming, and maintenance of parks, community facilities, recreation facilities, trails, parkways, and open space areas.

Policy ERC 2.5.1: Capital Funding. The City shall fund the costs of acquisition and development of City neighborhood and community parks, and community and recreation facilities through land dedication, in lieu fees, and/or development impact fees.

North Natomas Community Plan (NNCP)

The following policies from the NNCP are applicable to the proposed project, including the proposed CNU Medical Center.

Land Use and Urban Design: Planned Unit Developments (PUD) Policies

Policy NN.LU 1.7: Neighborhoods–Open Space. The City shall ensure that at least 80 percent of the dwelling units are within 880 feet of open space (e.g., accessible public and private parks and parkways, drainage corridors, agricultural buffers, golf courses, lakes, and other open space opportunities). The 880-foot access standard is calculated based on actual walking routes rather than radius.

Education, Recreation, and Culture: Civic Uses

Policy NN.ERC 1.3: Park Phasing. The City shall require that neighborhood and community parks be provided when a minimum of 50 percent of the residential land development in the park service area is completed.

Policy NN.ERC 1.8: Park Location Criteria. The City shall require that parks with active recreational uses which may negatively impact residential areas due to traffic, noise, and lighting should be sited so as to have minimal impact on surrounding residences. The City shall discourage or minimize residential back-on lots or side lots adjacent to parks. Neighborhood parks should be located along small residential streets or other connections within neighborhoods where they are easily accessed on foot. Community parks should be located along drainage canals or basins and/or along major streets where the park is easily visible and accessible by foot, bike, transit, or car.

City of Sacramento Parks and Recreation Master Plan 2005–2010: 2009 Technical Update

The 2009 Technical Update to the City of Sacramento Parks and Recreation Master Plan 2005–2010 was adopted by the City of Sacramento on April 21, 2009. The plan addresses the following topics, among others: the planning, development, operation, and maintenance of parks;

community outreach and agency partnerships; youth programming; recreation; marketing and special events; sustainability; and department-wide services.[50]

The following policies included in the 2009 Technical Update to the Master Plan are relevant to the proposed project, including the proposed CNU Medical Center.

> ***Policy 3.5:*** Encourage integration of park and recreational amenities into the design of commercial, infill, employment, redevelopment, and transit-oriented development.
>
> ***Policy 8.1:*** Use Core and Non-Core Maintenance Service Levels [as delineated in Park Maintenance Service Levels and Analysis[51]] to provide and sustain acceptable levels of maintenance.
>
> ***Policy 8.2:*** Assess the physical condition of all key City park and recreation system infrastructure elements.
>
> ***Policy 8.3:*** Conserve water use in maintenance activities (i.e., turf management, irrigation design, and scheduling) while maintaining healthy turf, landscaping, and trees.
>
> ***Policy 10.12:*** Utilize environmentally friendly landscape practices, such as integrated pest management (IPM), to reduce the amount of pesticides and other pollutants in our local waterways.
>
> ***Policy 12.10:*** Through the development conditioning process, encourage provision of private open space and recreation facilities in high density residential projects, mixed use projects, and employment centers in the vicinity of transit corridors to meet a portion of the open space and recreational needs of residents, employees, and visitors that will be generated by that development.
>
> ***Policy 12.30:*** Develop and implement "sustainable design" policies and standards for the planting and care of trees, turf, and other vegetation for the reduction of water and energy use (e.g., river-friendly landscape guidelines).
>
> ***Policy 12.31:*** Ensure plant selections and management practices are appropriate for the proposed park or open space types, site conditions, water conservation, and maintenance considerations.
>
> ***Policy 18.3:*** Encourage multi-modal circulation through construction and improvement of multi-use and bicycle trails for recreational, commuting, and sustainability purposes.

City of Sacramento Parks and Recreation Master Plan 2005–2010

Sacramento City Code

Chapter 12.72, Park Buildings and Recreational Facilities

The Sacramento City Code includes regulations governing building and park use, fundraising, permit procedures, and various miscellaneous provisions related to parks. Park use regulations include a list of activities that require permits, including organized activities consisting of groups

[50] City of Sacramento. 2021. City of Sacramento Parks and Recreation Master Plan and Park Project Programming Guide. Available: www.cityofsacramento.org/ParksandRec/Parks/Park-Planning-Development/MasterPlan-PRPG. Accessed July 21, 2021.

[51] City of Sacramento. 2009. *Parks and Recreation Master Plan 2005–2010: 2009 Technical Update.* Adopted April 21, 2009. Page Assessment-22.

of 50 or more people for longer than 30 minutes, activities using amplified sound, commercial and business activities, and fundraising activities. This code also includes a list of prohibited uses in parks, such as the presence of unleashed pets, use of firearms of any type, consumption of alcoholic beverages, or smoking near children's playground areas. Activities such as golfing, swimming, and horseback riding are permitted only within appropriate designated areas.

Chapter 17.512, Parks and Recreational Facilities

Chapter 17.512 of the Sacramento City Code provides standards and formulas for the dedication of parkland and in-lieu fees that help the City acquire new parkland. This chapter sets forth the standard to devote 1.75 acres of property for every 1,000 persons residing within the Central City, and 3.5 acres of property for every 1,000 persons residing in the remainder of the City, to local recreation and park purposes. This standard supersedes the 2035 General Plan's goal of providing 5.0 acres of neighborhood and community parks and other recreational facilities/sites per 1,000 residents (Policy ERC 2.2.4). Where a recreational or park facility has been designated in the General Plan or a specific plan, and is to be located in whole or in part within a proposed subdivision to serve the immediate and future needs of the subdivision's residents, the subdivider is to dedicate land for a local recreation or park facility sufficient in size and topography to serve the residents of the subdivision. The amount of land to be provided shall be determined pursuant to the appropriate standards and formula contained within the chapter. Under the appropriate circumstances, the subdivider shall, in lieu of dedicating land, either receive a 25 percent Private Recreation Facilities credit toward the Quimby obligation, or pay an in-lieu fee equal to the value of the land prescribed for dedication to be used for recreational and park facilities that would serve the residents of the area being subdivided.

Chapter 18.56, Park Impact Fee

Chapter 18.56 (Article II) of the Sacramento City Code imposes a park impact fee on residential and nonresidential development within the city limits. Fees collected pursuant to Chapter 18.56 are used primarily to finance the construction of park facilities. The park fees are assessed when landowners develop property, to provide all or a portion of the funds necessary to provide the neighborhood, community, or regional and citywide parks required to meet the needs of and address impacts caused by the additional persons residing or employed on the property as a result of the development.

Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, impacts on parks and recreation may be considered significant if implementation of the proposed project would:

- Cause or accelerate a substantial physical deterioration of existing area parks or recreation facilities; or
- Create a need for construction or expansion of recreation facilities beyond what was anticipated in the 2035 General Plan.

Methodology and Assumptions

The purpose of this analysis is to establish whether an increase in the use of public parks and recreation facilities resulting from implementation of the proposed project would cause substantial deterioration of those facilities, or would create a need for new or expanded facilities, the construction or operation of which could result in substantial adverse impacts on city public parks.

This analysis uses the park service goal cited in the City of Sacramento Parks and Recreation Master Plan 2005–2010, of 5.0 acres of dedicated parkland per 1,000 residents for parkland service levels within the City, to consider consistency with 2035 General Plan Policy ERC 2.4.1.[52] This service level goal consists of three categories: neighborhood-serving parks, community-serving parks, and regional parkland. Neighborhood and community parks each have a service level of 1.75 acres per 1,000 residents, and citywide or regional parkland has a service level goal of 1.5 acres per 1,000 residents.

TABLE 4.9-10
PARKS AND OPEN SPACE ANTICIPATED UNDER THE PROPOSED PROJECT

Amenity	Acreage
(Nature Park)	4.00
(Urban Plaza)	0.80
(Innovator Loop Curvilinear Park)	5.50
Passive Park adjacent to the Innovator Loop	0.25
Passive Park adjacent to the Innovator Loop	0.25
(Joint Use Park)	4.40
CNU public open space	9.1
TOTAL	**24.30**

SOURCE: Data compiled by Environmental Science Associates in 2021

Impacts and Mitigation Measures

Impact 4.9-7: Implementation of the proposed project could cause or accelerate the physical deterioration of existing parks or recreational facilities or create a need for construction or expansion of recreational facilities beyond what was anticipated in the General Plan.

Innovation Park PUD

The proposed project could introduce up to 3,071 residential units and 8,169 residents to the project area, and could also yield up to 7,420 full-time employees through a variety of commercial retail, office, education, and health care land uses. This increase in residential and employee populations would have the potential to contribute to the overuse of existing parks near the project area, which could potentially lead to the overcrowding and physical deterioration of those park facilities. In addition, the proposed project could require the dedication of additional parkland to meet the City's service target of 3.5 acres per 1,000 residents for neighborhood parks

52 City of Sacramento. 2009. *Parks and Recreation Master Plan 2005–2010: 2009 Technical Update.* Adopted April 21, 2009. Page Policy-5.

and the Parks and Recreation Master Plan threshold of 8.0 acres per 1,000 residents for citywide and regional parks.

Based on the standards established by the 2035 General Plan and the Sacramento City Code, development allowed under the proposed project is expected to require the dedication of 28.58 acres of parkland (**Table 4.9-11**).

TABLE 4.9-11
PARKLAND DEDICATION FOR THE PROPOSED PROJECT

Target Threshold Source	Target Threshold (acres/1,000 residents)	Anticipated Residents	Required Dedication (acres)	Deficit (acres)
Sacramento City Code	3.5	8,167	28.58	4.28
Sacramento 2035 General Plan	3.5	8,167	28.58	4.28

SOURCE: Data compiled by Environmental Science Associates in 2021

The proposed project includes provisions for: one approximately 4.0-acre nature park, a natural passive open space; a 0.80-acre urban plaza serving as an open space and gathering location; a 6.0-acre curvilinear park and buffering the anticipated Class I bike trail; 4.4 acres of shared-use sports fields and open space associated with a school that may located within the Life District; and 9.1 acres of publicly accessible open space on the CNU Medical Center campus. These facilities represent a cumulative total of approximately 24.3 acres of parks and open space planned in the project area (Table 4.9-10). Even the development of this dedicated parkland in the project area would result in a deficit of 4.28 acres relative to the 2035 General Plan target threshold of 3.5 acres per 1,000 residents. As described in Sacramento City Code Section 17.56.90, the proposed project would be eligible for a Private Recreation Facilities Credit (PRFC) of up to 25 percent of the dedication requirement, reducing the overall land dedication to 21.44 acres of public parkland. The application of the PRFC credit may satisfy the City's parkland dedication requirement. As a result, the impact related to parks and recreational facilities would be less-than- **significant**.

CNU Medical Center

The proposed CNU Medical Center would involve the construction of residential units and facilities to house 600 students, 550 staff and faculty, as well as their families, and 200 active adults. Implementation of the proposed CNU Medical Center, therefore, would generate additional demand for parks and park facilities within the NNCP area through the addition of new residents and employees, and could potentially result in the use of existing parks and recreational facilities such that a substantial physical deterioration of those facilities would occur. The CNU Medical Center site would include 9.1 areas of passive open space areas including gardens, green space, and outdoor furniture. The demand of parks by the CNU Medical Center would be approximately two acres. Therefore, the CNU Medical Center would provide more acres of park than is required by either City Code or the 2035 General Plan. The proposed project, including the CNU Medical Center, would contribute PIF funds for new residential and non-residential development within the City of Sacramento, pursuant to the "Mitigation Fee Act" in California Government Code

66000. Current PIF rates are set depending on development type, and are listed in **Table 4.9-12**, below. PIF fees for the residential units and commercial development anticipated from implementation of the proposed project, including the CNU Medical Center, would be paid to fund the development of neighborhood and community parks anticipated as a result of the proposed project.

TABLE 4.9-12
PARK IMPACT FEE (PIF) RATES

Type of Development	PIF
Single-family unit	$5,962
Multi-family unit	$3,513
Retail building square foot	$0.42
Office building square foot	$0.57
Industrial building square foot	$0.18

SOURCE: New Economics & Advisory. 2016. *City of Sacramento Park Impact Fee Nexus Study Update*. Published October 12, 2016. Page 2.

Although the proposed CNU Medical Center would result in additional demand for parks and park facilities beyond what is present in the NNCP area, proposed project would not create a need for construction or expansion of such facilities beyond what was anticipated in the 2035 General Plan. The proposed project would also account for the development of parks for new residential and non-residential development through onsite park development and the payment of park impact fees. As such, implementation of the proposed CNU Medical Center would result in a **less-than-significant** impact on parks and recreation facilities.

Mitigation Measure

Mitigation Measure 4.9-7 (PUD): Comply with Quimby Act and Park Impact Fee Ordinances.

The proposed project shall comply with the City of Sacramento's Quimby Act and Park Impact Fee ordinances.

Significance After Mitigation: Mitigation Measure 4.9-7 would ensure that the park standards which reflect the City of Sacramento's residential and commercial needs are met through the dedication of parks and open space and the payment of in-lieu fees. This measure would ensure that the City has adequate funding to maintain parks in the vicinity of the project area and acquire new land to develop parks, as needed. The proposed project would seek credits toward Quimby parkland dedication through the Private Recreation Facilities Credit Agreement, and would also require the payment of in-lieu feeds to be used by the City to develop additional park and recreation facilities in order to meet timing and service level goals for City park facilities. Dedicated land or the payment of in-lieu fees in such a manner is only to be used to develop new or refurbish existing neighborhood and community park or recreation facilities. PIF payments would be reflective of the types and intensity of development anticipated by the proposed

project and would mitigate impacts caused by the need for construction or expansion of recreational facilities beyond what was anticipated in the 2035 General Plan.

Implementing this mitigation measure would reduce this impact to a **less-than-significant** level.

Cumulative Impacts

The impact of the proposed project, including the proposed CNU Medical Center, on parks and recreation facilities must be analyzed in conjunction with past, present, and future development projects that could contribute to the impacts of the proposed project and create cumulative impacts. The geographic context for the analysis of cumulative impacts on parks, open spaces, and recreation is the city of Sacramento. However, given the service area thresholds of neighborhood and community parks—0.50 mile and 3.0 miles, respectively—the following cumulative impact analysis for these services focuses on the portions of the city that lie within the NNCP area.

Impact 4.9-8: Implementation of the proposed project, in conjunction with other development, could result in the provision of or need for increased demand for parks and recreational resources and facilities.

An increase in the residential population resulting from implementation of the proposed project could result in in an increased demand on parks and recreational facilities. Under full buildout of the General Plan, the population of the NNCP area is projected to reach 89,025 residents by 2035 and the population of the city of Sacramento is expected to increase to 640,381 residents by 2035.[53] However, policies developed under the General Plan are intended to ensure that adequate parks and recreational facilities are maintained to appropriately serve the increased population.

General Plan Policy ERC 2.1.1 requires that the City develop and maintain a complete system of parks and open spaces throughout the city for both passive and active recreation, and Policy ERC 2.2.4 identifies park service level goals to adequately serve residents. Policy ERC 2.2.6 encourages the City to explore creative solutions and alternatives to meeting demand for parks and recreational facilities in areas where traditional parkland may not be available. Policy ERC 2.5.4 establishes that the City fund the costs for the creation and maintenance of city neighborhood and community parks and associated facilities through the payment of in-lieu fees, land dedication, and/or development impact fees. In areas where land dedication is not feasible, new development is required to meet its fair share of the park acreage service level goals by paying fees for existing park and recreation enhancements or constructing improvements to existing facilities, consistent with Policy ERC 2.2.5.

The policies established in the 2035 General Plan are intended to ensure that construction or expansion of parks and recreational facilities would not be required beyond what was anticipated in the General Plan and analyzed in the 2035 General Plan Master EIR as a result of future development. Additionally, contributions to the funding of the acquisition, construction, and

[53] City of Sacramento. 2013. *City of Sacramento 2013–2021 Housing Element*. Adopted December 17, 2013. Pages H 3-3 to H 3-6.

maintenance of park facilities would be made by new development consistent with the Quimby Act and General Plan Policies ERC 2.2.5 and ERC 2.5.4. Policy ERC 2.2.1 mandates the implementation of a parks and recreation master plan intended to ensure that the goals and policies of the General Plan, including the park service levels goals identified in Policy 2.2.4, are met as growth occurs in the city. However, because there may not be adequate neighborhood, community, or regional parkland provided to meet City service level goals, as stated above, additional parks would need to be constructed by the City to ensure that demand generated by present and future development could be adequately met.

Because the proposed project would place additional demand on parks in the city, its contribution to this impact is considered cumulatively considerable, and the cumulative impact would be **significant**.

Mitigation Measure

Mitigation Measure 4.9-8 (PUD): Comply with Quimby Act and Park Impact Fee Ordinances.

Implement Mitigation Measure 4.9-7. See Impact 4.9-7, above, for the text of this mitigation measure.

Significance After Mitigation: Mitigation Measure 4.9-8 would ensure that the City's park urban service level goals are met through the dedication of parks and open space and/or the payment of in-lieu fees. This mitigation measure allows the City to consider the urban nature of the project area, as well as the value of alternative recreational facilities that do not represent traditional parks, consistent with 2035 General Plan Policy ERC 2.2.6. With implementation of the proposed mitigation, the contribution of development allowed under the proposed project to this cumulative impact would be less than considerable, and this impact would be reduced to a **less-than-significant** level.

4.10 Transportation and Circulation

This section analyzes the potential transportation and circulation conditions associated with the proposed Innovation Park PUD, including the CNU Medical Center (together referred to herein as the *proposed project*). This section presents the project-specific and cumulatively considerable impacts of the proposed project and recommends mitigation measures to lessen their significance.

The analysis in this section is based on a CEQA transportation analysis described in the *Methodology* subsection, and a local transportation analysis (LTA), both of which have been prepared by Kimley-Horn.[1] The LTA, included in **Appendix H** of this EIR, presents technical calculations and additional information, including effects of project implementation at specific area intersections, roadway segments, and freeway facilities.

A Notice of Preparation for this EIR was circulated for public review from March 1 to April 2, 2019. Agency comments pertaining to transportation and circulation included letters from the California Department of Transportation (Caltrans) and Sacramento County Department of Transportation (SACDOT). Transportation-related comment letters were also received from local organizations including Jibe, Sacramento Area Bicycle Advocates, and Walk Sacramento, and from several individuals.

Scoping comments provided by Caltrans identified anticipated project contributions to significant traffic congestion to nearby Interstate 5 (I-5) and Interstate 80 (I-80), and stated that a transportation impact study was required for the proposed action. An analysis of traffic congestion at freeway facilities is not required pursuant to CEQA. However, the analysis and conclusions provided in this section are based on the LTA (Appendix H), which also addresses impacts on freeway facilities.

Scoping comments by SACDOT requested that the transportation analysis for the Innovation Park PUD analyze impacts on Sacramento County roadway facilities. SACDOT stated that traffic from development allowed under the Innovation Park PUD would use portions of Del Paso Road, North Market Boulevard, Northgate Boulevard, and El Centro Road, and requested that any impacts and mitigation measures related to Sacramento County facilities be identified. The LTA, conducted as part of the City's analysis of the proposed project, included potential traffic on the roadways identified above. An analysis of specific traffic congestion at these intersections is not required pursuant to CEQA. However, these intersections have been studied to identify traffic anticipated to occur at area intersections as a result of the proposed project. (See Appendix H for the full text of the LTA.)

Scoping comments from Jibe, Sacramento Area Bicycle Advocates, and Walk Sacramento called for consideration of multimodal access and the inclusion of bicycle facilities and amenities throughout the Innovation Park PUD area (which is referred to herein as the *project area*).

[1] Kimley-Horn. 2021. *Local Transportation Analysis (LTA): Natomas Area Reuse, Sacramento, California.* Final. Prepared for City of Sacramento. August 20, 2021.

In addition to agency comments, the City received comments from individuals expressing concerns regarding a variety of transportation-related topics, including project impacts on area intersections in North Natomas, street parking near high-density residential land uses, morning peak-hour traffic when schools are in session, cumulative traffic on I-5 and I-80, routing of public transit, and consideration of all modes of transportation.

4.10.1 Environmental Setting

This section describes the environmental setting, which is the baseline scenario upon which the project-specific impacts are evaluated. The existing roadway, transit, bicycle, and pedestrian transportation systems in the transportation study area are described below.

Roadway System

The Sacramento 2035 General Plan (General Plan) identifies the following functional roadway classifications, which govern engineering design standards.

- **Major Arterial**: A four- to six-lane street that serves longer distance trips and serves as the primary route for moving traffic through the city, connecting urban centers, residential neighborhoods, and commercial centers to one another, or to the regional transportation network. Movement of people and goods (also known as *mobility*), rather than access to adjacent land uses, is the primary function of an arterial street. These streets carry moderate to heavy vehicular movement, low to high pedestrian and bicycle movements, and moderate to high transit movement. Typical major arterials have right-of-way widths of 80–150 feet. Arterials configured as boulevards have right-of-way widths of 90–180 feet.

- **Minor Arterial**: A two-lane street that serves longer distance trips and provides access to the regional transportation system. These streets carry low to moderate vehicular movement, low to high pedestrian and bicycle movements, and moderate to high transit movement. These roadways typically have high levels of access control. Typical minor arterial streets have right-of-way widths of 50–90 feet.

- **Major Collector**: A two-to four-lane street that primarily provides travel between arterial streets and collector or local streets and secondarily provides access to abutting properties. These streets carry low to moderate vehicular movement, low to heavy pedestrian movement, moderate to heavy bicycle movement, and low to moderate transit movement. These roadways have medians and moderate access control. Typical major collector streets have right-of-way widths of 60–120 feet.

- **Minor Collector**: A two-lane street that connects residential uses to the major street system. These roadways are undivided and have lower levels of access control to abutting properties control than arterials or major collectors. Typical minor collector streets have right-of-way widths of 40–80 feet.

- **Local**: A two-lane street that provides direct access to abutting land uses. Local streets serve the interior of a neighborhood. These streets carry low vehicular movement, low to heavy pedestrian movement, and low to moderate bicycle movement. Typical local streets have right-of-way widths of 40–60 feet.

The roadway components of the transportation system near the project area are described below.

- **I-80** is a multi-lane freeway south of the project area. Running primarily east-west, I-80 provides access to the Natomas community in addition to interregional connections east to Reno, Nevada, and beyond, and west to the San Francisco Bay Area. In the project vicinity, access to I-80 is provided primarily by interchanges at Truxel Road and Northgate Boulevard.

- **I-5** is a multi-lane freeway that serves as the commute corridor between Downtown Sacramento and North Natomas. Just north of the Del Paso Road interchange, I-5 curves toward the west and continues to Sacramento International Airport, Yolo County, and beyond. In the project vicinity, access to I-5 is provided primarily by interchanges at Arena Boulevard and Del Paso Road, and I-80.

- **Arena Boulevard** is an east-west arterial roadway south of the project area. Arena Boulevard extends from El Centro Road to the west to Gateway Park Boulevard to the east. It accommodates four to eight through lanes. Arena Boulevard has a full interchange with I-5. West of El Centro Road, this roadway continues as Natomas Central Drive. East of Gateway Park Boulevard, it continues as North Market Boulevard.

- **Del Paso Road** is an east-west arterial roadway north of the project area. Del Paso Road begins at Power Line Road west of I-5 and continues easterly to Northgate Boulevard, where it becomes Main Avenue. Del Paso Road is primarily a six-lane roadway between I-5 and Blackrock Drive. Westbound Del Paso Road narrows to two lanes between Gateway Park Boulevard and Park Place Drive as it crosses the East Drainage Canal. Del Paso Road provides access to adjacent residential neighborhoods and to retail, light industrial, and commercial uses.

- **East Commerce Way** is a north-south arterial roadway west of the project area. East Commerce Way extends to Elkhorn Boulevard to the north. This roadway currently terminates south of Natomas Crossing Drive, but is planned to extend to San Juan Road. East Commerce Way currently has two to six through lanes, and the extension is planned to accommodate two to four through lanes.

- **Truxel Road/Natomas Boulevard** is a north-south arterial roadway east of the project area. Natomas Boulevard is an arterial that serves residential uses in North Natomas and becomes Truxel Road at the intersection with Del Paso Road. Truxel Road continues south as an eight-lane road to I-80, and then as a four-lane roadway through South Natomas to Garden Highway.

- **Innovator Drive** is a north-south local roadway south of the project area. Innovator Drive provides local access to the Natomas Crossing neighborhood and currently terminates at the Sleep Train Arena site's South Entrance at Arena Boulevard. The project proposes to extend Innovator Drive through the project area as a major collector. The proposed alignment of Innovator Drive would terminate at the south leg of the existing Del Paso Road/Town Center Drive signalized intersection.

- **Prosper Road** is an east-west local roadway running parallel to Arena Boulevard south of the project area. Prosper Road provides local access to development within Natomas Crossing, including the Villagio Luxury Apartments, Vintage at Natomas Field Senior Apartments, Star Academy Natomas Charter School, and residential subdivisions.

Pedestrian System

The pedestrian system in the project vicinity generally consists of sidewalks on the developed sides of all streets, as follows:

- Arena Boulevard—both sides from I-5 to Northgate Boulevard.
- Del Paso Road—south side from I-5 to East Commerce Way; both sides from east of East Commerce Way to Blackrock Drive.
- East Commerce Way—east side north of Del Paso Road; both sides south of Del Paso Road.
- Truxel Road/Natomas Boulevard—both sides from Del Paso Road to I-80.
- Innovator Drive—both sides.
- Prosper Road—both sides.

A network of multi-use paths (pedestrian/bicycle) also exists throughout the North Natomas Regional Park to the north.

Bicycle System

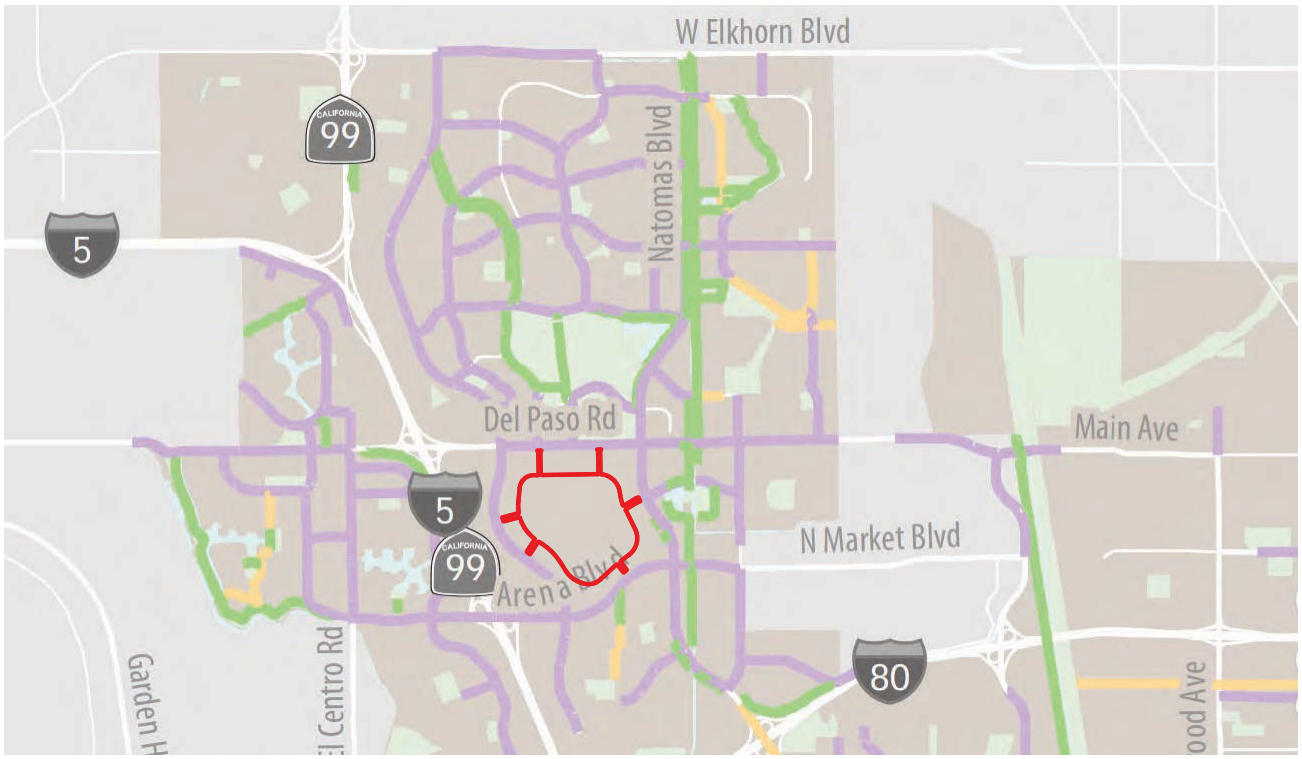
Bicycle facilities are typically classified as follows:

- **Bicycle paths** (Class I) provide a completely separate right-of-way and are designated for the exclusive use of bicycles and pedestrians, with vehicle cross-flow minimized.
- **Bicycle lanes** (Class II) provide a restricted right-of-way and are designated for the use of bicycles for one-way travel with a striped lane on a street or highway. Bicycle lanes are generally a minimum of 5 feet wide. Vehicle parking and vehicle/pedestrian cross-flow are permitted.
- **Bicycle routes** (Class III) provide a right-of-way designated by signs or pavement markings for shared use with motor vehicles. These include "sharrows" or shared-lane markings to highlight the presence of bicyclists.
- **Bikeways** (Class IV) are cycle tracks or "separated" bikeways that provide a right-of-way designated exclusively for bicycle travel within a roadway and are protected from other vehicle traffic by physical barriers, including but not limited to grade separation, flexible posts, inflexible vertical barriers such as raised curbs, or parked cars.

Figure 4.10-1 illustrates the existing bicycle system in the vicinity of the project area. On-street bikeways currently exist on many study area roadways, including Del Paso Road, Arena Boulevard, East Commerce Way, and Truxel Road.

Transit System

The Sacramento Regional Transit District (SacRT) operates 69 bus routes and 42.9 miles of light rail, covering a 418-square-mile service area. Buses and light rail run 365 days a year, using 76 light rail vehicles, 205 buses powered by compressed natural gas, and 23 shuttle vans. Buses operate daily from 5 a.m. to 11 p.m., every 12–60 minutes, depending on the route. Light rail



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SOURCE: City of Sacramento Bicycle Master Plan, 2016

Innovation Park PUD

Figure 4.10-1
Existing Bicycle Network

ESA

trains begin operation at 4 a.m., with service every 15 minutes during the day and every 30 minutes in the evening and on weekends. Blue Line and Gold Line trains operate until 12:30 a.m. and the Gold Line route segment extending to Folsom operates until 7 p.m. Green Line trains operate every 30 minutes, Monday through Friday, from approximately 6 a.m. to 8:30 p.m., with no weekend or holiday service.

Figure 4.10-2 illustrates transit service in the vicinity of the project area.

SacRT Route 11 (Truxel Road) operates in each direction along Truxel Road. The route extends to Club Center Drive and Northborough Drive to the north. To the south, the route continues to Downtown via Garden Highway and I-5, before continuing to Land Park and terminating at Sacramento City College. Route 11 operates at 30-minute headways during the peak travel period and 45-minute headways during off-peak/weekend periods, from approximately 6 a.m. to 9 p.m., seven days per week.

SacRT Route 13 (Northgate) operates in each direction along Truxel Road and Del Paso Road, adjacent to the project area. To the west, the route loops through Westlake. To the east, the route continues southerly along Northgate Boulevard and Arden Way to the Arden/Del Paso light rail station, which is currently the closest light rail station to the project PUD area. Route 13 operates at 45-minute headways from approximately 6 a.m. to 9 p.m., seven days per week.

Jibe operates peak-period scheduled-route transit service between North Natomas and Downtown Sacramento. The Eastside Route (170) operates six buses to Downtown during the a.m. period and five buses from Downtown during the p.m. period. The bus service operates through the North Natomas neighborhoods northeast of the project area, stopping at Arena Boulevard and Truxel Road at the southeast corner of the project area. Jibe Express Shuttle service has been temporarily suspended due to low ridership likely attributable to the extended impacts of the COVID-19 Global Pandemic. However, in the near term it is anticipated that Jibe will begin offering a limited schedule, which would increase in frequency with rider demand, eventually resuming previous service levels.

4.10.2 Regulatory Setting

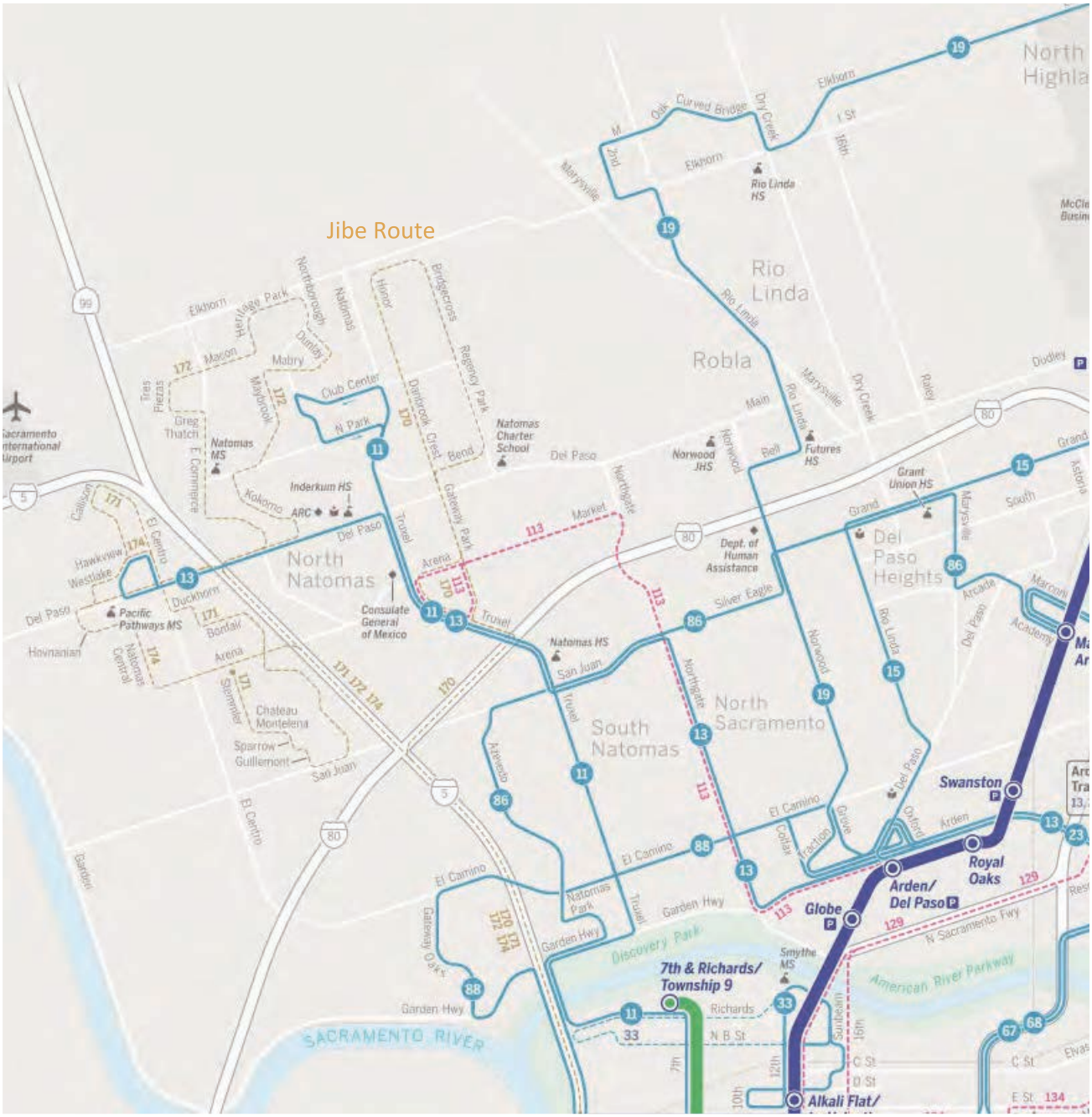
This section describes federal, state, and local regulations pertaining to transportation that may be applicable to the proposed project.

Federal

No federal regulations apply directly to the proposed Innovation Park PUD, including the CNU Medical Center. However, federal regulations related to the Americans with Disabilities Act, Title VI, and environmental justice relate to transit service.

State

The I-5, I-80, and State Route 99 freeway systems are under the jurisdiction of Caltrans. Caltrans has mandated that an impact on the freeway facility would occur if off-ramp queuing were to spill back into the mainline or metered on-ramp queuing were to spill back into the arterial roadway.



SOURCE: Regional Transit, 2019

Innovation Park PUD

Figure 4.10-2
Existing Transit Network

ESA

The passage of Senate Bill 743 in fall 2013 led to a change in the way that transportation impacts are measured under CEQA. As of July 1, 2020, automobile delay and level of service may no longer be used as the performance measure to determine the transportation impacts of land development projects under CEQA. Instead, an alternative metric that supports the goals of Senate Bill 743 is required. Although there is no requirement to use any particular metric, the Governor's Office of Planning and Research has recommended the use of vehicle miles traveled (VMT). This requirement does not modify the discretion lead agencies have to develop their own methodologies or guidelines, or to analyze impacts on other components of the transportation system, such as walking, bicycling, transit, and safety.

Regional

The Sacramento Area Council of Governments (SACOG) is responsible for preparing and updating the Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) 2020[2] and the corresponding Metropolitan Transportation Improvement Program for the six-county Sacramento region. The MTP/SCS provides a 20-year transportation vision and corresponding list of projects. The Metropolitan Transportation Improvement Program identifies short-term projects (seven-year horizon) in more detail. The updated MTP/SCS 2020 was adopted by the SACOG board on November 18, 2019.

Local

Sacramento 2035 General Plan

The transportation study area's roadway system is under the jurisdiction of the city of Sacramento. The following goals and policies from the Mobility Element of the Sacramento 2035 General Plan that coordinate the transportation and circulation system with planned land uses are relevant to the proposed project, including the proposed CNU Medical Center.

> **Goal M 1.1: Comprehensive Transportation System.** Provide a multimodal transportation system that supports the social, economic and environmental vision, goals, and objectives of the City, and is effectively planned, funded, managed, operated, and maintained.
>
> > ***Policy M 1.1.1 Right-of-Ways*:** The City shall preserve and manage rights-of-way consistent with: the circulation diagram, the City Street Design Standards, the goal to provide Complete Streets as described in Goal M 4.2, and the modal priorities for each street segment and intersection established in Policy M4.4.1: Roadway Network Development, Street Typology System.
> >
> > ***Policy M 1.1.2 Transportation System*:** The City shall manage the travel system to ensure safe operating conditions.
> >
> > ***Policy M 1.1.3 Emergency Services*:** The City shall prioritize emergency service needs when developing transportation plans and making transportation network changes.
> >
> > ***Policy M 1.1.4 Facilities and Infrastructure*:** The City shall effectively operate and maintain transportation facilities and infrastructure to preserve the quality of the system.

[2] Sacramento Area Council of Governments. 2019. *2020 MTP/SCS: Metropolitan Transportation Plan/Sustainable Communities Strategy.* Adopted November 18, 2019. Available: https://www.sacog.org/2020-metropolitan-transportation-plansustainable-communities-strategy.

Goal M 1.2: Multimodal System. Increase multimodal accessibility (i.e., the ability to complete desired personal or economic transactions via a range of transportation modes and routes) throughout the city and region with an emphasis on walking, bicycling, and riding transit.

***Policy M 1.2.1 Multimodal Choices*:** The City shall develop an integrated, multimodal transportation system that improves the attractiveness of walking, bicycling, and riding transit over time to increase travel choices and aid in achieving a more balanced transportation system and reducing air pollution and greenhouse gas emissions.

***Policy M 1.2.3 Transportation Evaluation*:** The City shall evaluate discretionary projects for potential impacts to traffic operations, traffic safety, transit service, bicycle facilities, and pedestrian facilities, consistent with the City's Traffic Study Guidelines.

***Policy M 1.2.4 Multimodal Access*:** The City shall facilitate the provision of multimodal access to activity centers such as commercial centers and corridors, employment centers, transit stops/stations, airports, schools, parks, recreation areas, medical centers, and tourist attractions.

Goal M 1.3: Barrier Removal. Improve accessibility and system connectivity by removing physical and operational barriers to safe travel.

***Policy M 1.3.1 Grid Network*:** To promote efficient travel for all modes, the City shall require all new residential, commercial, or mixed-use development that proposes or is required to construct or extend streets to develop a transportation network that is well-connected, both internally and to off-site networks preferably with a grid or modified gridform.

The City shall require private developments to provide internal complete streets (see Goal M.4.2) that connect to the existing roadway system.

***Policy M 1.3.2 Eliminate Gaps*:** The City shall eliminate "gaps" in roadways, bikeways, and pedestrian networks. To this end: …

c. The City shall construct new bikeways and pedestrian paths in existing neighborhoods to improve connectivity.

***Policy M 1.3.3 Improve Transit Access*:** The City shall support the Sacramento Regional Transit District (RT) in addressing identified gaps in public transit networks by working with RT to appropriately locate passenger facilities and stations, pedestrian walkways and bicycle access to transit stations and stops, and public rights of way as necessary for transit-only lanes, transit stops, and transit vehicle stations and layover.

***Policy M 1.3.4 Barrier Removal for Accessibility*:** The City shall remove barriers, where feasible, to allow people of all abilities to move freely and efficiently throughout the city.

***Policy M 1.3.5 Connections to Transit Stations*:** The City shall provide and improve connections to transit stations by identifying roadways, bikeways and pedestrian improvements within walking distance (1/2 mile) of existing and planned transit stations. Such improvements shall emphasize the development of complete streets.

***Policy M 1.3.6 Multi-Jurisdictional Transportation Corridors*:** The City shall work with adjacent jurisdictions and the Sacramento Area Council of Governments (SACOG) to identify existing and future transportation corridors that should be linked across

jurisdictional boundaries to provide desired upstream and downstream traffic operations and to preserve sufficient right-of-way.

***Policy M 1.3.7 Regional Transportation Planning*:** The City shall continue to actively participate in Sacramento Area Council of Government's (SACOG's) regional transportation planning efforts to coordinate priorities with neighboring jurisdictions and continue to work with all local transit providers and the California Department of Transportation (Caltrans) on transportation planning, operations, and funding.

Goal M 1.4: Transportation Demand Management. Reduce reliance on the private automobile.

***Policy M 1.4.1 Increase Vehicle Occupancy*:** The City shall work with a broad range of agencies (e.g., SACOG, SMAQMD [Sacramento Metropolitan Air Quality Management District], Sacramento RT, Caltrans) to encourage and support programs that increase regional average vehicle occupancy, including the provision of traveler information, shuttles, preferential parking for carpools/vanpools, transit pass subsidies, road and parking pricing, and other methods.

***Policy M 1.4.2 Automobile Commute Trip Reduction*:** The City shall encourage employers to reduce the number of single-occupant vehicle commute trips to their sites by enforcing the existing trip reduction ordinance in the City Code.

***Policy M 1.4.3 Transportation Management Associations*:** The City shall encourage commercial, retail, and residential developments to participate in or create Transportation Management Associations to reduce single-occupant vehicle trips.

***Policy M 1.4.4 Off-Peak Deliveries*:** The City shall encourage business owners to schedule deliveries at off-peak traffic periods.

Goal M 1.5: Emerging Technologies and Services. Use emerging transportation technologies and services to increase transportation system efficiency.

***Policy M 1.5.1 Facilities for Emerging Technologies*:** The City shall assist in the provision of support facilities such as advanced fueling stations (e.g., electric and hydrogen) for emerging technologies.

***Policy M 1.5.5 Support Zero- and Low-Emission Vehicle Adoption*:** The City shall continue to collaborate with its State and regional partners to support rapid adoption of zero emissions and low-emission vehicles, including standardizing infrastructure and regulations for public electric vehicle charging stations, streamlining the permit-process for private electric vehicle charging stations (including home charging stations), developing guidelines and standards for dedicated and preferential parking for zero- and low-emissions vehicles (including charging stations for plug-in-electric vehicles, where necessary).

***Policy M 1.5.7 Freeway Improvement Coordination*:** The City shall work with Caltrans and adjacent jurisdictions to identify funding for improvements that address cumulative effects of planned development on the freeway system.

Goal M 2.1: Integrated Pedestrian System. Design, construct, and maintain a universally accessible, safe, convenient, integrated and well-connected pedestrian system that promotes walking.

***Policy M 2.1.1 Pedestrian Master Plan*:** The City shall maintain and implement a Pedestrian Master Plan that carries out the goals and policies of the General Plan. All new development shall be consistent with the applicable provisions of the Pedestrian Master Plan.

***Policy M 2.1.2 Sidewalk Design*:** The City shall require that sidewalks wherever possible be developed at sufficient width to accommodate all users including persons with disabilities and complement the form and function of both the current and planned land use context of each street segment (i.e. necessary buffers, amenities, outdoor seating space).

***Policy M 2.1.3 Streetscape Design*:** The City shall require that pedestrian-oriented streets be designed to provide a pleasant environment for walking and other desirable uses of public space, including such elements as shade trees; plantings; well-designed benches, trash receptacles, news racks, and other furniture; pedestrian-scaled lighting fixtures; wayfinding signage; integrated transit shelters; public art; and other amenities.

***Policy M 2.1.4 Cohesive and Continuous Network*:** The City shall develop a pedestrian network of public sidewalks, street crossings, and other pedestrian paths that makes walking a convenient and safe way to travel citywide. The network should include a dense pattern of routes in pedestrian-oriented areas such as the Central City and include wayfinding where appropriate.

***Policy M 2.1.5 Housing and Destination Connections*:** The City shall require new subdivisions and large-scale developments to include safe pedestrian walkways that provide direct links between streets and major destinations such as transit stops and stations, schools, parks, and shopping centers.

***Policy M 2.1.7 Safe Pedestrian Crossings*:** The City shall improve pedestrian safety at appropriate intersections and mid-block locations by providing safe pedestrian crossings.

***Policy M 2.1.9 Safe Sidewalks*:** The City shall require pedestrian facilities to be constructed in compliance with adopted design standards.

Goal M 3.1: Safe, Comprehensive, and Integrated Transit System. Create and maintain a safe, comprehensive, and integrated transit system as an essential component of a multimodal transportation system.

***Policy M 3.1.1 Transit for All*:** The City shall support a well-designed transit system that provides accessibility and mobility for all Sacramento residents, workers and visitors. The City shall enhance bicycle and pedestrian access to stations.

***Policy M 3.1.12 New Facilities*:** The City shall work with transit providers and private developers to incorporate transit facilities into new private development and City project designs including incorporation of transit infrastructure (i.e., electricity, fiber-optic cable, etc.), alignments for transit route extensions, new station locations, bus stops, and transit patron waiting area amenities (i.e. benches, real-time traveler information screens).

***Policy M 3.1.14 Direct Access to Stations*:** The City shall ensure that development projects located in the Central City and within ½ mile walking distance of existing and

planned light rail stations provide direct pedestrian and bicycle access to the station area, to the extent feasible.

***Policy M 3.1.18 Developer Contributions*:** Consistent with the City's established transportation impact analysis and mitigation guidelines, the City shall require developer contributions for bus facilities and services and related improvements.

Goal M 4.1: Street and Roadway System. Create a context-sensitive street and roadway system that provides access to all users and recognizes the importance that roads and streets play as public space. As such, the City shall strive to balance the needs for personal travel, goods movement, parking, social activities, business activities, and revenue generation, when planning, operating, maintaining, and expanding the roadway network.

***Policy M 4.1.1 Emergency Access*:** The City shall develop a roadway system that is redundant (i.e., includes multiple alternative routes) to the extent feasible to ensure mobility in the event of emergencies.

***Policy M 4.1.2 Balancing Community, Social, Environmental, and Economic Goals*:** The City shall evaluate and strive to address community, environmental, and citywide economic development goals when adding or modifying streets, roads, bridges, and other public rights-of-way.

Goal M 4.2: Complete Streets. The City shall plan, design, operate and maintain all streets and roadways to accommodate and promote safe and convenient travel for all users—pedestrians, bicyclists, transit riders, and persons of all abilities, as well as freight and motor vehicle drivers.

***Policy M 4.2.1 Accommodate All Users*:** The City shall ensure that all new roadway projects and any reconstruction projects designate sufficient travel space for all users including bicyclists, pedestrians, transit riders, and motorists except where pedestrians and bicyclists are prohibited by law from using a given facility.

***Policy M 4.2.2 Pedestrian and Bicycle-Friendly Streets*:** In areas with high levels of pedestrian activity (e.g., employment centers, residential areas, mixed-use areas, schools), the City shall ensure that all street projects support pedestrian and bicycle travel. Improvements may include narrow lanes, target speeds less than 35 miles per hour, sidewalk widths consistent with the Pedestrian Master Plan, street trees, high visibility pedestrian crossings, and bikeways (e.g. Class II and Class III bike lanes, bicycle boulevards, separated bicycle lanes and/or parallel multi-use pathways).

***Policy M 4.2.3 Adequate Street Tree Canopy*:** The City shall ensure that all new roadway projects and major reconstruction projects provide for the development of an adequate street tree canopy.

Goal M 4.3: Neighborhood Traffic. Enhance the quality of life within existing neighborhoods through the use of neighborhood traffic management and traffic calming techniques, while recognizing the City's desire to provide a grid system that creates a high level of connectivity.

***Policy M 4.3.1 Neighborhood Traffic Management*:** The City shall continue wherever possible to design streets and approve development applications in a manner as to reduce high traffic flows and parking problems within residential neighborhoods.

***Policy M 4.3.2 Traffic Calming Measures*:** Consistent with the Roadway Network and Street Typology policies in this General Plan and Goal M 4.3, the City shall use traffic calming measures to reduce vehicle speeds and volumes while also encouraging walking and bicycling.

Goal M 4.4: Roadway Functional Classification and Street Typology. Maintain an interconnected system of streets that allows travel on multiple routes by multiple modes, balancing access, mobility and place making functions with sensitivity to the existing and planned land use context of each corridor and major street segment.

***Policy M 4.4.1 Roadway Network Development*:** The City shall develop the roadway network depicted in the Circulation Diagram is shown in (General Plan) Figures M4 and M4a. The lanes shown in these figures represent the number expected to be constructed by 2035 based on current funding projections.

***Policy M 4.4.2 Transportation Performance Metrics*:** The City shall apply appropriate transportation performance metrics and thresholds in a manner consistent with State law and the community values expressed in the goals and policies of this general plan when measuring transportation system impacts for subsequent projects, making General Plan consistency determinations, and developing transportation financing programs.

Goal M 5.1: Integrated Bicycle System. Create and maintain a safe, comprehensive, and integrated bicycle system and set of support facilities throughout the city that encourage bicycling that is accessible to all. Provide bicycle facilities, programs and services and implement other transportation and land use policies as necessary to achieve the City's bicycle mode share goal as documented in the Bicycle Master Plan.

***Policy M 5.1.1 Bicycle Master Plan*:** The City shall maintain and implement a Bicycle Master Plan that carries out the goals and policies of the General Plan. All new development shall be consistent with the applicable provisions of the Bicycle Master Plan.

***Policy M 5.1.2 Appropriate Bikeway Facilities*:** The City shall provide bikeway facilities that are appropriate to the street classifications and type, number of lanes, traffic volume, and speed on all rights-of-way.

***Policy M 5.1.3 Continuous Bikeway Network*:** The City shall provide a continuous bikeway network consisting of bike-friendly facilities connecting residential neighborhoods with key destinations and activity centers (e.g., transit facilities, shopping areas, education institutions, employment centers).

***Policy M 5.1.4 Conformance to Applicable Standards*:** The City shall require all bikeways to conform to applicable Federal, State, and City standards while considering a full range of innovative bikeway design best practices.

***Policy M 5.1.5 Motorists, Bicyclists, and Pedestrian Conflicts*:** The City shall develop safe and convenient bikeways, streets, roadways, and intersections that reduce conflicts between bicyclists and motor vehicles on streets, between bicyclists and pedestrians on multi-use trails and sidewalks, and between all users at intersections.

***Policy M 5.1.6 Connections between New Development and Bicycle Facilities*:** The City shall require that new development provides connections to and does not interfere with existing and proposed bicycle facilities.

***Policy M 5.1.7 Bikeway Requirements*:** The City shall provide bike lanes on all repaved and/or reconstructed arterial and collector streets to the maximum extent feasible. The appropriate facility type for each roadway segment shall be consistent with the Roadway Network and Street Typologies defined in this General Plan.

***Policy M 5.1.8 Connections between New Development and Bikeways*:** The City shall ensure that new commercial and residential development projects construct bikeway facilities identified in the Bicycle Master Plan that have a direct nexus with the project.

***Policy M 5.1.9 Conversion of Underused Facilities*:** The City shall convert underused rights-of-way, including drainage canals, freeway easements, railroad corridors, and underutilized travel and parking lanes to bikeways bicycle and/or pedestrian facilities where possible and appropriate.

***Policy M 5.1.11 Bike Facilities in New Developments*:** The City shall require that major new development projects (e.g., employment centers, educational institutions, recreational and retail destinations, and commercial centers) provide bicycle parking (i.e., short-term bicycle parking for visitors and long-term bicycle parking for residents or employees), personal lockers, showers, and other bicycle-support facilities.

***Policy M 5.1.14 Encourage Bicycle Use*:** The City shall encourage bicycle use in all neighborhoods, especially where short trips are most common.

Goal M 9.1: Transportation Funding. Provide sufficient funding to construct, maintain, and operate transportation facilities and services needed to achieve the City's mobility goals.

***Policy M 9.1.1 New Development*:** The City shall require new development to contribute towards the construction of offsite facilities and provision of services to achieve the City's mobility goals.

***Policy M 9.1.5 Fair Share for Transportation Infrastructure Improvements*:** The City shall require all new development to dedicate right-of-way, construct facilities, or pay its fair share for needed transportation infrastructure improvements that support all travel modes, including pedestrian, bicycle, and transit facilities, roadway improvements, and transportation demand management (TDM) programs and services.

North Natomas Community Plan

The transportation study area's roadway system is under the jurisdiction of the City of Sacramento. The following goals and policies from the Mobility element of the North Natomas Community Plan (NNCP), which is incorporated into Sacramento 2035 General Plan, that coordinate the transportation and circulation system with planned land uses are relevant to the proposed project, including the proposed CNU Medical Center.

Vehicular Street System

Policy NN.M. 1.1 Decrease Width of Local Streets: The City shall reduce the width of local streets whenever feasible to provide multiple routes within the neighborhoods, yet attain the projected number of housing units and promote a close neighborhood feel.

Transit System

Policy NN.M 1.4 Light Rail Right-of-Way. The City shall base the alignment right-of-way on the needs of the light rail system and designed to not preclude use by other

intermediate capacity technologies, such as express buses or electric trolley buses. (MPSP/IGC)

Policy NN.M 1.6 Bus Transit Center. The City shall locate bus transit centers near the corner of Truxel Road and North Loop Road; and at the corner of Del Paso and El Centro Roads. The land uses within ¼ mile of these bus centers will be sufficiently intense to provide sufficient ridership to make the bus system function effectively. Two acres should be reserved for each bus center. Fifty to 100 joint-use parking spaces should be identified at these sites.

Policy NN.M 1.7 Phasing the Transit System. The City shall provide for the development of a community based on high accessibility to transit services as a primary goal of this community plan. Transit planning must be sensitive to the ways in which alignment, stop/station location, and access affect development potential and long-term economic viability of the community. Likewise, the concentration of land uses shall be sufficient to support quality transit service. With the advent of the first development, express bus service shall serve the inter-community transit needs. The second phase of development would see the advent of local bus service and shuttle service. The third phase shall see development along the rail corridor in sufficient intensity to warrant extension of electric trolley and/or light rail service. Regional Transit, the North Natomas Business Association, or Transportation Management Association (TMA) should periodically evaluate transit services to determine if ridership is sufficient to warrant an upgrade in the type of service provided to the community

Policy NN.M 1.8 Shuttle Bus Service. The City shall minimize the need for shuttle service through appropriate land use and transit planning. However, shuttle bus service can be used as an interim measure, providing temporary service until more permanent transit services are provided. Also, provision of shuttle service for a site or PUD may be used as a portion of the required Transportation System Management measures. Shuttle bus service shall be funded by the North Natomas Business Association or through the North Natomas Transportation Management Association (TMA).

Policy NN.M 1.9 Park-n-Ride Facilities. The Downtown Natomas Airport (DNA) corridor Route Refinement Report identifies a need for a minimum of 900 parking spaces in the North Natomas community. The report identifies 375 park-n-ride spaces on 3.3 acres at the Truxel and I -80 station, and 225 spaces on 2 acres at the Town Center station. These 600 spaces would be exclusively park-n-ride spaces. The last 300 spaces would be joint-use spaces located at the Arena station. Any additional park-n-ride spaces required to meet air quality or other goals and park-n-ride spaces at bus transit centers shall be designated as permanent joint-use. Park-n-ride facilities shall maximize the use of shared parking arrangements with any public or private use.

4.10.3 Analysis, Impacts, and Mitigation

This section describes the analysis techniques, assumptions, and results used to identify potential effects of the proposed Innovation Park PUD, including the CNU Medical Center, on the transportation and circulation system. This section describes the anticipated travel characteristics of the proposed project, and presents the change in the transportation system that would occur with the addition of development allowed under the proposed Innovation Park PUD, including the CNU Medical Center.

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, and consistent with thresholds of significance identified in the Sacramento 2035 General Plan and previous environmental documents, the proposed project would result in the transportation and circulation system impacts described below.

Impacts on the roadway system may be considered significant if any of the following scenarios would occur with implementation of the proposed project:

- Average VMT per capita for the project's residential component would exceed 85 percent of the regional average, defined for the purposes of this analysis as the contiguous area that includes the SACOG member agencies;
- Average VMT per employee for the project's employment component (excluding the hospital, university, and retail components of the project) would exceed 85 percent of the regional average, defined for the purposes of this analysis as the contiguous area that includes the SACOG member agencies; or
- The addition of the project's hospital, university, or retail components, analyzed separately, would result in a net increase in the regional VMT.

In addition, impacts on other elements of the transportation and circulation system may be considered significant if implementation of the proposed project would do any of the following:

- For bicycle facilities:
  - Adversely affect existing or planned bicycle facilities; or
  - Fail to adequately provide for access by bicycle;
- For pedestrian circulation:
  - Adversely affect existing or planned pedestrian facilities; or
  - Fail to adequately provide for access by pedestrians;
- For transit:
  - Adversely affect public transit operations; or
  - Fail to adequately provide access to transit;
- For freeway facilities:
  - Result in off-ramp queuing that is greater than storage capacity; or
  - Result in on-ramp queuing for metered on-ramps that is greater than storage capacity; or
- For construction-related traffic impacts:
  - Cause inconveniences to motorists from prolonged road closures; or
  - Result in an increased frequency of potential conflicts between vehicles, pedestrians, and bicyclists.

Methodology and Assumptions

This section relies on a variety of data sources to support the technical analysis, including the following:

- Data from the Sacramento 2035 General Plan and the 2010 U.S. Census.
- Data from the SACOG 2040 MTP/SCS and the SACOG regional travel model (SACSIM).
- Data collected by the traffic consultant.
- The City of Sacramento Bicycle Master Plan.

This section presents a comprehensive, multimodal analysis of impacts of the proposed project under existing and cumulative conditions. The cumulative scenario, required under CEQA, evaluates the contribution of the proposed project to any cumulatively considerable impacts.

Transportation Study Area and Analysis Scenarios

The transportation study area was selected in consultation with City of Sacramento staff based on a review of the project location and the amount of traffic that could be added to transportation network components in the area.

The analysis considers impacts of motorized vehicle traffic on roadway capacity and VMT, and potential impacts on transit, bicycle, and pedestrian mobility. An evaluation of construction impacts is also included. Quantitative transportation analyses have been conducted for four different scenarios: Existing (2021) Conditions, Existing (2021) plus Proposed Project Conditions, Cumulative (2040) Conditions, and Cumulative (2040) plus Proposed Project Conditions.

Traffic Impact Analysis Methodology

Vehicle Miles Traveled Analysis Methodology

Travel forecasting for the project's transportation analysis was conducted using SACOG's most recently released SACSIM travel demand model (SACSIM19).

SACSIM is a complete travel demand model that SACOG uses for planning in the Sacramento region. The demand for personal travel in the region is modeled by DaySim, an activity-based demand model. Features of DaySim include the ability to model the complete daily activity pattern of each person in the Sacramento region, including the number and sequence of activities. A series of destination, mode, and time-of-day choice models are used to simulate each individual's choices. The model can estimate start and end times for all activities and trips to the half-hour level of resolution.

Other components of SACSIM are used to model, at an aggregate level, the remaining components of regional travel, including travel into, out of, and through the region; truck travel; and travel to and from Sacramento International Airport.

The SACSIM model was used to estimate all likely future travel into, out of, and within the project area. The model predicts the number of trips, trip purposes, origins and destinations of trips, time of day of the trips, travel mode (walk, bike, transit, automobile), and travel path.

Project-specific factors considered in the model included household demographics (assumed to be similar to the demographics of adjacent North Natomas neighborhoods); the project's employment and commercial components (number of employees by type) and university component (numbers of students and employees); the roadway network (e.g., connections to the existing roadway system, number of lanes, free-flow travel speeds); the pedestrian network and on-street and off-street bicycle networks; and development patterns (grid connectivity).

Residential and Office Uses

To determine the VMT for the proposed project's residential and office land uses, the number and type of project residential units were added into the model. Because SACSIM does not contain a residential land use type that reflects the trip generation characteristics of active adult housing, the ratio of daily trip generation rates was based on the *Trip Generation Handbook, 10th Edition* (Institute of Transportation Engineers). This allowed determination of the number of single-family detached homes that would generate a similar number of trips as active adult housing. Trip generation calculations are described later in this section.

To add the project's nonresidential land use components into the model, the uses were converted into the number of jobs each would provide. For all uses outside of Parcel D, including general office building and retail, the *Trip Generation Handbook* was again used. The number of trips produced by the size of each land use code for office and retail was used to back-calculate the number of employees, based on each land use's equation for the number of trips produced by each employee. For uses within Parcel D, including medical office building, hospital, and university, the number of employees was provided by the project applicant.

To calculate VMT per capita and VMT per employee produced by the residential and office land uses, the process provided by SACOG,[3] which involves using SACSIM outputs, was used. This process included calculating the trip distance for all project trips internal to the SACOG region, or trips that both start and end within the SACOG region. Next, the distance for trips either starting or ending outside of the SACOG region needed to be calculated. Trips that would both start and end outside of the SACOG region were not included in this analysis.

As shown in **Table 4.10-1,** the proposed project's residential land uses would generate 87,526 daily VMT. When combined with the number of future residents estimated to live in the project area (5,829 people), the proposed project would produce an estimated 15.0 VMT per capita. Based on the SACOG regional threshold shown—17.7 VMT per capita—the residential land uses are expected to not exceed the regional threshold.

As shown in **Table 4.10-2**, the proposed project's nonresidential land uses would generate 166,547 daily VMT related to work trips. To calculate VMT per employee, SACOG suggests deducting the jobs taken by external workers, i.e., workers who live outside the SACOG region. As shown in Table 4.10-2, a total of 9,542 workers would likely work in the project area. Of these, 9,343 workers would be expected to reside within the SACOG region, and 199 would be expected to reside outside of the SACOG region. When combined with the number of employees

[3] Sacramento Area Council of Governments. 2020. *VMT Computation Procedures—Draft*. Last updated September 30, 2020.

estimated to work in the project area, the proposed project is estimated to produce 17.8 VMT per employee. Based on the SACOG regional threshold shown—18.1 VMT per employee—the nonresidential land uses are expected to not exceed the regional threshold.

TABLE 4.10-1
EXISTING (2021) PLUS PROPOSED PROJECT VEHICLE MILES TRAVELED ANALYSIS—RESIDENTIAL LAND USES

Residential VMT Results	Population and VMT per Capita
Project Population	5,829
Project Residential VMT	87,526
Project VMT per Capita	15.0
SACOG Regional Average[1]	20.8
SACOG Regional Threshold[2]	17.7
Project VMT per Capita as % of Regional Threshold	**85%**

NOTES: SACOG = Sacramento Area Council of Governments; VMT = vehicle miles traveled

1 Regional average and regional threshold obtained from SACOG's Residential VMT map, last updated on May 26, 2021.

2 The SACOG regional threshold is 85% of the SACOG regional average. Therefore, a project VMT per capita of 100% of the regional threshold represents a significant VMT impact.

SOURCE: Kimley-Horn. 2021. *Local Transportation Analysis (LTA): Natomas Area Reuse, Sacramento, California.* Final. Prepared for City of Sacramento. August 20, 2021.

TABLE 4.10-2
EXISTING (2021) PLUS PROPOSED PROJECT VEHICLE MILES TRAVELED ANALYSIS—NONRESIDENTIAL LAND USES

Residential VMT Results	Population and VMT per Capita
Project Employees	9,542
Project Employees Inside Region	9,343
Project Employment VMT	166,547
Project VMT per Employee	17.8
SACOG Regional Average[1]	21.3
SACOG Regional Threshold[2]	18.1
Project VMT per Capita as % of Regional Threshold	**98%**

NOTES: SACOG = Sacramento Area Council of Governments; VMT = vehicle miles traveled

1 Regional average and regional threshold obtained from SACOG's Work VMT map, last updated on May 26, 2021.

2 The SACOG regional threshold is 85% of the SACOG regional average. Therefore, a project VMT per capita of 100% of the regional threshold represents a significant VMT impact.

SOURCE: Kimley-Horn. 2021. *Local Transportation Analysis (LTA): Natomas Area Reuse, Sacramento, California.* Final. Prepared for City of Sacramento. August 20, 2021.

Retail Land Uses

The Governor's Office of Planning and Research's *Technical Advisory on Evaluating Transportation Impacts in CEQA*[4] specifically addresses some of the key issues surrounding how a local-serving retail store should be evaluated in terms of its VMT impact. As described, the threshold for significance for retail uses is "a net increase." This means that if a proposed retail use results in additional VMT, it would result in a finding of significance.

Local-serving retail primarily serves preexisting needs (i.e., it does not generate new trips because it meets existing demand). Because of this, local-serving retail uses can be presumed to reduce trip lengths when a new store is proposed. Essentially, the assumption is that someone will travel to a newly constructed local-serving store because of its proximity, rather than that the proposed retail store is fulfilling an unmet need (i.e., the person had an existing need that was met by the retail located farther away and is now traveling to the new retail use because it is closer to the person's origin location). This results in a trip on the roadway network becoming shorter, rather than adding a new trip to the roadway network, which would result in an impact on the overall transportation system. Conversely, residential and office land uses often drive new trips, given that they introduce new participants to the transportation system.

The *Technical Advisory on Evaluating Transportation Impacts in CEQA* provides for a general threshold of 50,000 square feet per establishment as an indicator as to whether a retail store can be considered local-serving or not.

Figure 4.10-3 visually demonstrates the basis for this finding. As shown, introducing a new retail store often has the effect of redistributing existing customer trips in a manner that reduces average trip lengths, thereby resulting in a VMT reduction (i.e., trip segments that were 3 miles before the new retail store are reduced to 1 mile with the addition of the new retail store).

If regional-serving retail is ultimately determined to be part of the proposed project, those sites would need to be evaluated on their own merits as detailed project descriptions become available in the future.

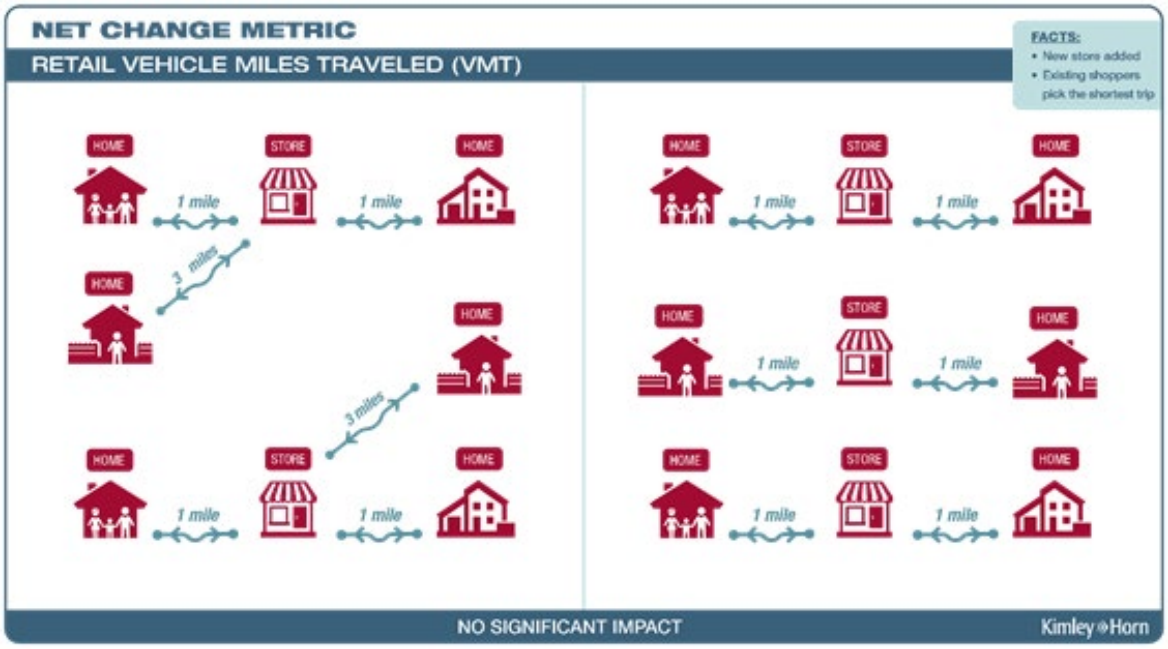
Medical Land Uses

While the *Technical Advisory on Evaluating Transportation Impacts in CEQA*[5] does not specifically discuss medical uses, it does address the approach for analyzing land uses with the attributes of a hospital:

> For office projects that feature a customer component, such as a government office that serves the public, a lead agency can analyze the customer VMT component of the project using the methodology for retail development.

[4] Governor's Office of Planning and Research. 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018. Page 16.

[5] Governor's Office of Planning and Research. 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018.



Innovation Park PUD

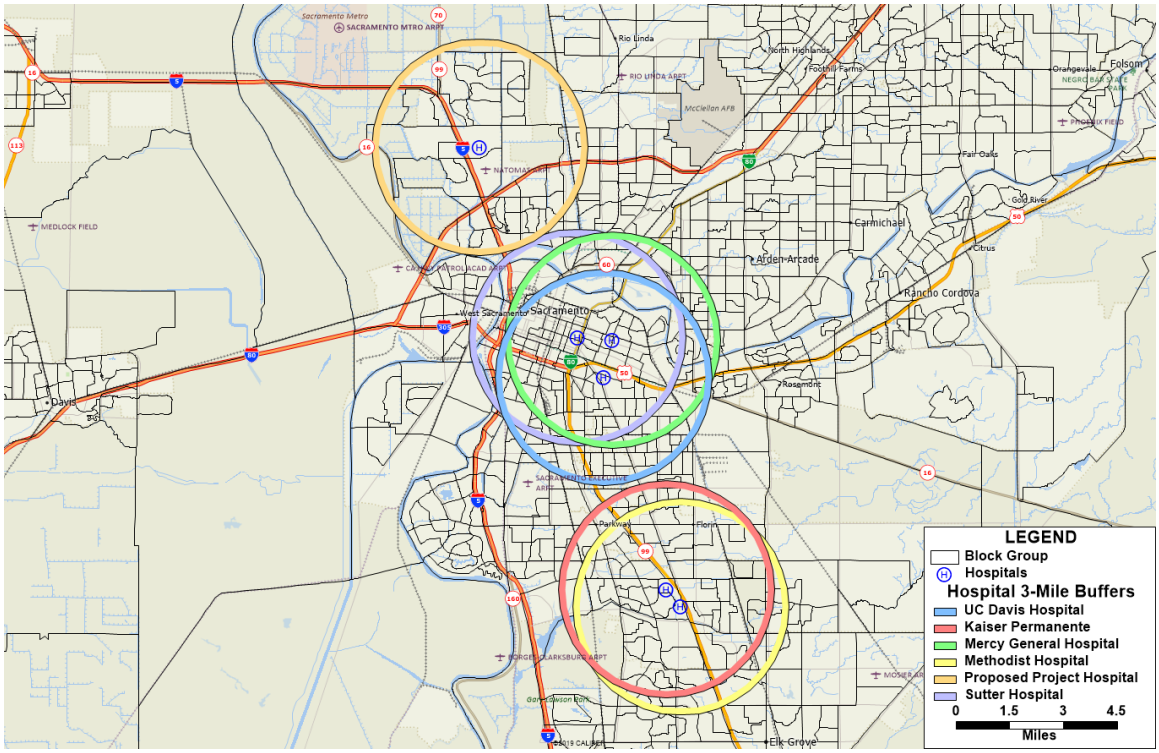
Figure 4.10-3
Illustration of the Effect of Local-Serving Retail on Vehicle Miles Traveled

The basic concept behind this analysis approach is that medical uses are like local retail uses in that they primarily serve preexisting needs (i.e., they do not generate new trips, instead they meet existing demand). Based on this, it can be presumed that a new hospital would result in the redistribution of existing trips between existing healthcare facilities when the hospital opens for service, potentially resulting in shorter trip lengths. Given that the relative number of trips is constant, shorter trip lengths would result in a VMT reduction. Essentially, a hospital visit is assumed to occur regardless of the proximity of the facility, but the proximity will drive the length of that trip and the resultant impact on the overall transportation system.

Currently, the only hospitals in the city of Sacramento are three facilities in the city's Downtown core—Sutter Medical Center, Sacramento; Mercy General Hospital; and the University of California, Davis Medical Center—and two hospitals in the southern part of the city, Methodist Hospital of Sacramento and Kaiser Permanente South Sacramento Medical Center. Because there are no hospitals in Natomas and the northern part of the city, hospital trips originating in those areas would be shortened with the addition of the CNU Medical Center in the Innovation Park PUD area.

To better illustrate this point, the proposed CNU Medical Center was plotted geographically using the TransCAD software package along with the five existing hospitals. The census block groups were also included in the map to provide population information based on estimates provided by the U.S. Census. A three-mile buffer was placed around each hospital to remove any overlaps between coverage for the proposed CNU Medical Center and the existing hospitals (**Figure 4.10-4**). As shown in Figure 4.10-4, there are approximately 105,000 people living within three miles of the proposed CNU Medical Center who would travel a shorter distance than

if they were to travel to the existing hospitals. While this is a qualitative estimate, it helps provide a graphic representation of how a new hospital would shorten trips overall and reduce the region's VMT. Therefore, addition of the CNU Medical Center would not exceed the regional VMT threshold of significance for hospital uses.



Source: Kimley Horn

Innovation Park PUD

Figure 4.10-4
Illustration of the Effect of Introducing a New Hospital on Vehicle Miles Traveled

Medical University Land Use

In general, colleges and universities can be thought of as regional-serving because they draw trips from beyond the local area for both employees and students living off campus. However, the proposed medical university located in Parcel D has been determined to be local-serving and would have a negligible effect on regional VMT. This conclusion was drawn based on the understanding that the proposed medical school would be a specialized school, and rather than draw from the general population as regional-serving universities and colleges do, students are attending for a specific purpose and would either live on campus or locate themselves closer to the school than they are currently located.

In addition, with the medical university's association with the hospital located on Parcel D, many of the commute trips normally made by much of the staff would already be occurring for the hospital. For those staff members not associated with the hospital, such as many of the support staff, their average VMT was found to be less than the regional threshold as noted above.

Cumulative Analysis

Typically, the comparison of Existing (2021) Conditions and Existing (2021) plus Proposed Project Conditions results in an evaluation of the worst-case scenario, whether under an efficiency metric (per capita/per employee) or a net change metric (such as for retail). This is a result of the fact that future-year analyses (Cumulative analyses) include additional developments, which typically have the effect of shortening trips as the proximity of complementary land uses improves with increasing densities (e.g., houses are closer to stores, houses are closer to offices). As such, it can be presumed that a project would not have a significant cumulative impact if it is not determined to have one under existing conditions, unless there are known circumstances that might alter this outcome.

To prove this statement, analyses were performed for the residential and employment-based land uses for Cumulative (2040) plus Proposed Project conditions. The methodologies for conducting this analysis are identical to the ones described above, but rather than add the project to the base-year scenario of SACSIM, the project was added to the future-year scenario, designed to represent 2040 conditions. The proposed project's population and employees are identical between the two scenarios, although the number of employees located within the SACOG region increased from 9,343 for Existing (2021) Conditions to 9,389 for Cumulative (2040) Conditions, an increase of 46 employees.

As shown in **Table 4.10-3**, the proposed project's residential land uses would produce 81,481 daily VMT, down from 87,526 daily VMT for Existing (2021) plus Proposed Project Conditions. When combined with the number of people estimated to live in the project area (5,829 people), the proposed project is estimated to produce 14.0 VMT per capita, down from 15.0 VMT per capita for Existing (2021) plus Proposed Project Conditions. Consistent with the finding for Existing (2021) plus Proposed Project Conditions, based on the SACOG regional threshold shown, 17.7 VMT per capita, the residential land uses are expected to not exceed the regional threshold for Cumulative (2040) plus Proposed Project Conditions.

As shown in **Table 4.10-4**, the proposed project's nonresidential land uses would produce 148,790 daily VMT related to work trips, down from 166,547 daily VMT for Existing (2021) plus Proposed Project conditions. When combined with the number of employees estimated to work in the project area within the SACOG region, the proposed project is estimated to produce 15.8 VMT per employee, down from 17.8 VMT per employee for Existing (2021) plus Proposed Project Conditions. Consistent with the finding for Existing (2021) plus Proposed Project Conditions, based on the SACOG regional threshold shown, 18.1 VMT per employee, the nonresidential land uses are expected to not exceed the regional threshold for Cumulative (2040) plus Proposed Project Conditions.

TABLE 4.10-3
CUMULATIVE (2040) PLUS PROPOSED PROJECT VEHICLE MILES TRAVELED ANALYSIS—RESIDENTIAL LAND USES

Residential VMT Results	Population and VMT per Capita
Project Population	5,829
Project Residential VMT	81,481
Project VMT per Capita	14.0
SACOG Regional Average[1]	20.8
SACOG Regional Threshold[2]	17.7
Project VMT per Capita as % of Regional Average	**67%**
Project VMT per Capita Exceeds Regional Threshold[3]	**No**

NOTES: SACOG = Sacramento Area Council of Governments; VMT = vehicle miles traveled

1 Regional average and regional threshold obtained from SACOG's Residential VMT map, last updated on May 26, 2021.

2 SACOG regional threshold is 85% of SACOG regional average VMT per capita.

3 Project VMT per capita as % of regional average that exceeds 85% is a significant impact.

SOURCE: Kimley-Horn. 2021. *Local Transportation Analysis (LTA): Natomas Area Reuse, Sacramento, California.* Final. Prepared for City of Sacramento. August 20, 2021.

TABLE 4.10-4
CUMULATIVE (2040) PLUS PROPOSED PROJECT VEHICLE MILES TRAVELED ANALYSIS—NONRESIDENTIAL LAND USES

Residential VMT Results	Population and VMT per Capita
Project Employees	9,542
Project Employees Inside Region	9,389
Project Employment VMT	148,790
Project VMT per Employee	15.8
SACOG Regional Average[1]	21.3
SACOG Regional Threshold[2]	18.1
Project VMT per Capita as % of Regional Threshold	**74.2%**
Cumulative plus Project VMT per Capita Exceeds Regional Threshold[3]	**No**

NOTES: SACOG = Sacramento Area Council of Governments; VMT = vehicle miles traveled

1 Regional average and regional threshold obtained from SACOG's Work VMT map, last updated on May 26, 2021.

2 SACOG regional threshold is 85% of SACOG regional average VMT per capita.

3 Project VMT per capita as % of regional average that exceeds 85% is a significant impact.

SOURCE: Kimley-Horn. 2021. *Local Transportation Analysis (LTA): Natomas Area Reuse, Sacramento, California.* Final. Prepared for City of Sacramento. August 20, 2021.

Ramp Queuing

Freeway off-ramps and metered on-ramps were analyzed using the Synchro Simtraffic software package. Simtraffic is a micro simulation software that simulates and tracks individual vehicles throughout the roadway network. To estimate ramp queuing, the volume and signal timing were entered into each freeway study intersection and 10 one-hour iterations were run for each peak hour. A 10-minute seeding time was used to populate the roadway network before each hour of analysis and four 15-minute intervals were analyzed, with the second interval being specified as the peak-hour factor adjustment interval. 95th-percentile queues were determined by averaging the results of the 10 iterations simulated.

One limitation of the Simtraffic software is that it cannot simulate ramp meter timing that changes dynamically with demand. Therefore, with direction from City staff, a nine-second cycle was used for all ramp meters. This includes two seconds of green time and seven seconds of red time for each cycle. For those queues that exceeded the storage capacity, to simulate a dynamic cycle length for the ramp meter, a seven-second cycle length was tested to determine whether the reduced red time improved the flow and reduced the queue length.

Existing Conditions

Study area intersections at freeway interchanges were evaluated for queuing during weekday a.m. and p.m. peak hours. On-ramp queuing for metered ramps was also evaluated for weekday a.m. and p.m. peak hours.

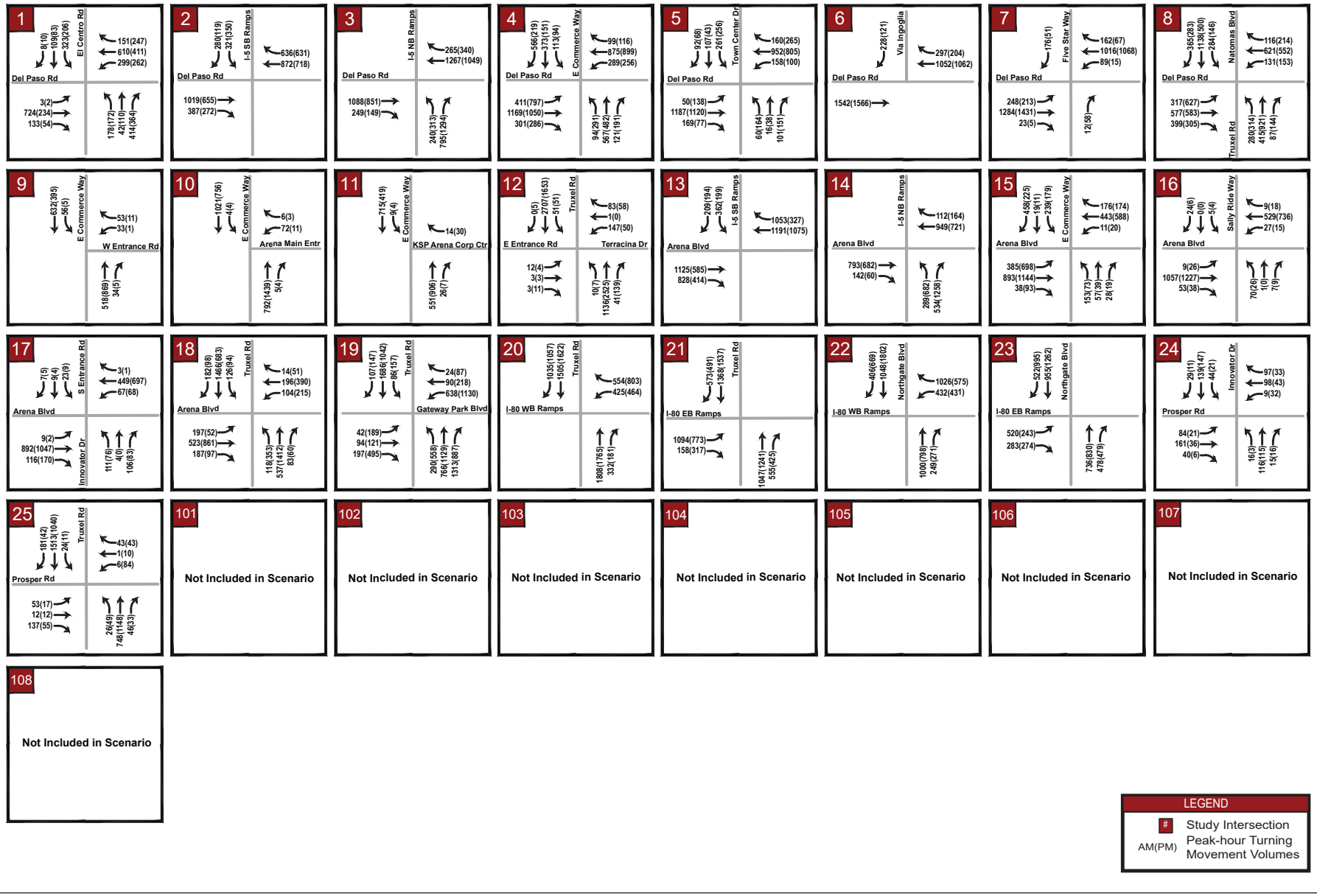
Peak-period intersection turning movement counts were conducted for the a.m. and p.m. weekday peak periods (7 to 9 a.m. and 4 to 6 p.m.) on Thursday, March 14, 2019, and Tuesday, April 9, 2019. **Figure 4.10-5** illustrates the Existing (2021) Conditions intersection geometry (number of approach lanes and traffic control) and traffic volumes.

Table 4.10-5 summarizes the Existing (2021) Conditions off-ramp queuing at the study area intersections during the a.m. and p.m. peak hours. As shown, all off-ramps are able to fully contain the queues without vehicles spilling back into the freeway during the a.m. and p.m. peak hours. **Table 4.10-6** summarizes the Existing (2021) Conditions a.m. and p.m. peak-hour on-ramp queuing for the on-ramps that contain ramp metering. As shown, all on-ramps are able to fully contain the queues without vehicles spilling back into the arterial roadway during the a.m. and p.m. peak hours.

Project Assumptions

Land Use

Table 4.10-7 summarizes the Innovation Park PUD land use assumptions for modeling purposes in the transportation analysis. The proposed project is assumed to include 3,071 residential dwelling units consisting of single-family, multi-family, and active adult units, as well as a 42-bed hospital, a 78,180-square-foot hotel, 365,900 square feet of general office space, 590,000 square feet of medical-dental office space, 641,000 square feet of university space, and 342,400 square feet of commercial space.



SOURCE: Kimley-Horn, 2021

Innovation Park PUD

Figure 4.10-5
Existing Traffic Volumes

ESA

TABLE 4.10-5
QUEUING AT FREEWAY RAMP TERMINI DURING PEAK HOURS—EXISTING (2021) CONDITIONS

Intersection/Analysis Scenario	Movement	A.M. Peak Hour		P.M. Peak Hour	
		Available Storage (ft)	95th % Queue (ft)	Available Storage (ft)	95th % Queue (ft)
#2, Del Paso Road @ I-5 SB Ramps	SBL	1,130	135	1,130	135
	SBR	1,130	140	1,130	70
#3, Del Paso Road @ I-5 NB Ramps	NBL	1,300	140	1,300	275
	NBR	1,300	145	1,300	185
#13, Arena Blvd. @ I-5 SB Off-Ramp	SBL	1,430	95	1,430	105
	SBR	865	70	865	165
#14, Arena Blvd. @ I-5 NB Off-Ramp	NBL	1,160	65	1,160	120
	NBR	1,160	80	1,160	135
#20, Truxel Road @ I-80 WB Ramps	WBL	1,690	130	1,690	130
	WBR	1,690	170	1,690	110
#21, Truxel Road @ I-80 EB Ramps	EBR	1,450	300	1,450	155
	EBR	1,450	135	1,450	85
#22, Northgate Blvd. @ I-80 WB Ramps	WBL	1,420	115	1,420	110
#23, Northgate Blvd. @ I-80 EB Ramps	EBL	1,290	135	1,290	80

NOTES: Blvd. = Boulevard; EB = eastbound; EBL = eastbound left; EBR = eastbound right; ft = feet; NB = northbound; NBL = northbound left; NBR = northbound right; SB = southbound; SBL = southbound left; SBR = southbound right; WB = westbound; WBL = westbound left; WBR = westbound right

SOURCE: Kimley-Horn. 2021. *Local Transportation Analysis (LTA): Natomas Area Reuse, Sacramento, California.* Final. Prepared for City of Sacramento. August 20, 2021.

TABLE 4.10-6
QUEUING AT FREEWAY ON-RAMPS DURING PEAK HOURS—EXISTING (2021) CONDITIONS

Intersection	Ramp	Storage (ft)	Peak Hour	Queue (ft)
Del Paso Rd. @ I-5 SB Ramps (Intersection #2)	Loop On-Ramp	520	a.m.	78
			p.m.	81
Del Paso Rd. @ I-5 SB Ramps (Intersection #2)	Diagonal On-Ramp	1,220	a.m.	98
			p.m.	84
Arena Blvd. @ I-5 SB Ramps (Intersection #13)	Loop On-Ramp	840	a.m.	80
			p.m.	59
Arena Blvd. @ I-5 SB Ramps (Intersection #13)	Diagonal On-Ramp	1,030	a.m.	772
			p.m.	105
Arena Blvd. @ I-5 NB Ramps (Intersection #14)	Diagonal On-Ramp	940	a.m.	57
			p.m.	64
Arena Blvd. @ I-5 NB Ramps (Intersection #14)	Loop On-Ramp	630	a.m.	53
			p.m.	37
Truxel Rd. @ I-80 WB Ramps (Intersection #20)	Diagonal On-Ramp	1,260	a.m.	120
			p.m.	123

TABLE 4.10-6
QUEUING AT FREEWAY ON-RAMPS DURING PEAK HOURS—EXISTING (2021) CONDITIONS

Intersection	Ramp	Storage (ft)	Peak Hour	Queue (ft)
Truxel Rd. @ I-80 WB Ramps (Intersection #20)	Loop On-Ramp	820	a.m.	63
			p.m.	48
Truxel Rd. @ I-80 EB Ramps (Intersection #21)	Loop On-Ramp	870	a.m.	80
			p.m.	70
Truxel Rd. @ I-80 EB Ramps (Intersection #21)	Diagonal On-Ramp	1,250	a.m.	163
			p.m.	110
Northgate Blvd. @ I-80 WB Ramps (Intersection #22)	Diagonal On-Ramp	1,380	a.m.	113
			p.m.	324
Northgate Blvd. @ I-80 WB Ramps (Intersection #22)	Loop On-Ramp	770	a.m.	82
			p.m.	88
Northgate Blvd. @ I-80 EB Ramps (Intersection #23)	Loop On-Ramp	790	a.m.	74
			p.m.	72
Northgate Blvd. @ I-80 EB Ramps (Intersection #23)	Diagonal On-Ramp	1,210	a.m.	68
			p.m.	72

NOTES: Blvd. = Boulevard; EB = eastbound; ft = feet; I-5 = Interstate 5; I-80 = Interstate 80; NB = northbound; Rd. = Road; SB = southbound; WB = westbound
Queues that exceed storage by more than one vehicle length (25 feet) are **bolded**.

SOURCE: Kimley-Horn. 2021. *Local Transportation Analysis (LTA): Natomas Area Reuse, Sacramento, California.* Final. Prepared for City of Sacramento. August 20, 2021.

TABLE 4.10-7
LAND USE SCENARIO FOR THE PROPOSED INNOVATION PARK PLANNED UNIT DEVELOPMENT

Parcel	Approx. Land Area (Acres)	Land Use*	Density (dwelling units/acre)	FAR (commercial, office, hotel, ground-floor retail in MU)	Units	Gross Floor Area (sf)
A Innovation District	11.2	SMUD facility Residential MU	80	0.1	760	41,382
B Life District	40.2	SF Residential MF Residential Residential MU School/Park	12 24–30 20	 0.1	144 352 60	 13,068
C Innovation District	14.0	Residential MU Office	80	0.2 1.2	720	39,204 261,360
D, D-1 Health District	46.4	Hospital Education Commercial/Retail Residential Active Senior Res. Central Utility Plant Medical Office Auditorium Outdoor Space and Sports Courts			400 beds 500 100 950 seats 2,000 seats	905,000 641,000 721,000 384,000 72,000 127,500 590,000 54,000 150,000

TABLE 4.10-7
LAND USE SCENARIO FOR THE PROPOSED INNOVATION PARK PLANNED UNIT DEVELOPMENT

Parcel	Approx. Land Area (Acres)	Land Use*	Density (dwelling units/acre)	FAR (commercial, office, hotel, ground-floor retail in MU)	Units	Gross Floor Area (sf)
E, E-1 Life District	32.0	SF Residential MF Residential Office Commercial Hotel Park/Plaza	12 24–30	 1.2 1.2 0.9	163 275	 104,544 104,544 78,180
ROW	40.0	Major Streets				
Total	**183.8**				**3,074 units 400 beds 2,900 seats**	**4,286,782**

NOTES: FAR = floor area ratio; MF = multi-family; MU = mixed use; Res. = residential; ROW = right-of-way; sf = square feet; SF = single-family; SMUD = Sacramento Municipal Utility District
* A portion of the total land use would be set aside for parks.

Assumptions:
Mixed-use ground-floor retail to be local-serving small shops, cafes, small market, etc.
Multi-family reflects net density. Single-family reflects gross density.

SOURCE: Kimley-Horn. 2021. *Local Transportation Analysis (LTA): Natomas Area Reuse, Sacramento, California.* Final. Prepared for City of Sacramento. August 20, 2021.

Transportation Network

Table 4.10-8 summarizes the number of lanes on each roadway segment, as well as the roadway classification. The proposed project would include six connections to the surrounding arterial roadway system, using existing roadway connections.

TABLE 4.10-8
PROPOSED ROADWAY LANES AND CLASSIFICATIONS

Roadway	Segment	Number of Through Lanes	Classification
Five Star Way	Del Paso Road to Sports Parkway	2	Major Collector
Innovator Drive	Del Paso Road to Sports Parkway (North)	2	Major Collector
	Sports Parkway (North) to Arena Boulevard	4	Major Collector
Main Entrance	East Commerce Way to Sports Parkway	4	Major Collector
	Sports Parkway to Innovator Drive	2	Minor Collector
Sports Parkway	Clockwise from Innovator Drive to Terracina Drive	2	Major Collector
	Clockwise from Terracina Drive to Innovator Drive	2	Major Collector
Terracina Drive	Innovator Drive to Sports Parkway	2	Major Collector
	Sports Parkway to Truxel Road	4	Major Collector
West Entrance	East Commerce Way to Sports Parkway	4	Major Collector
	Sports Parkway to Innovator Drive	4	Minor Collector

SOURCE: Planning Entitlement Application, November 6, 2018.

Study Area

Figure 4.10-6 illustrates the study area and surrounding roadway network.

Project Trip Generation

The project's trip generation was estimated directly by SACOG's SACSIM travel model. The trip generation is based directly on household travel information collected in the Sacramento region, and reflects the location, mode choice, and demographics associated with the area. For new development in the study area, land use characteristics were assumed to be similar to nearby existing development, such as the areas of North Natomas near the project area.

For analysis purposes, *internal trips* are trips that have their origin and destination within the project area. These trips can be within a single parcel or between parcels. Note that all trips between parcels, regardless of mode, would use the public roadway system.

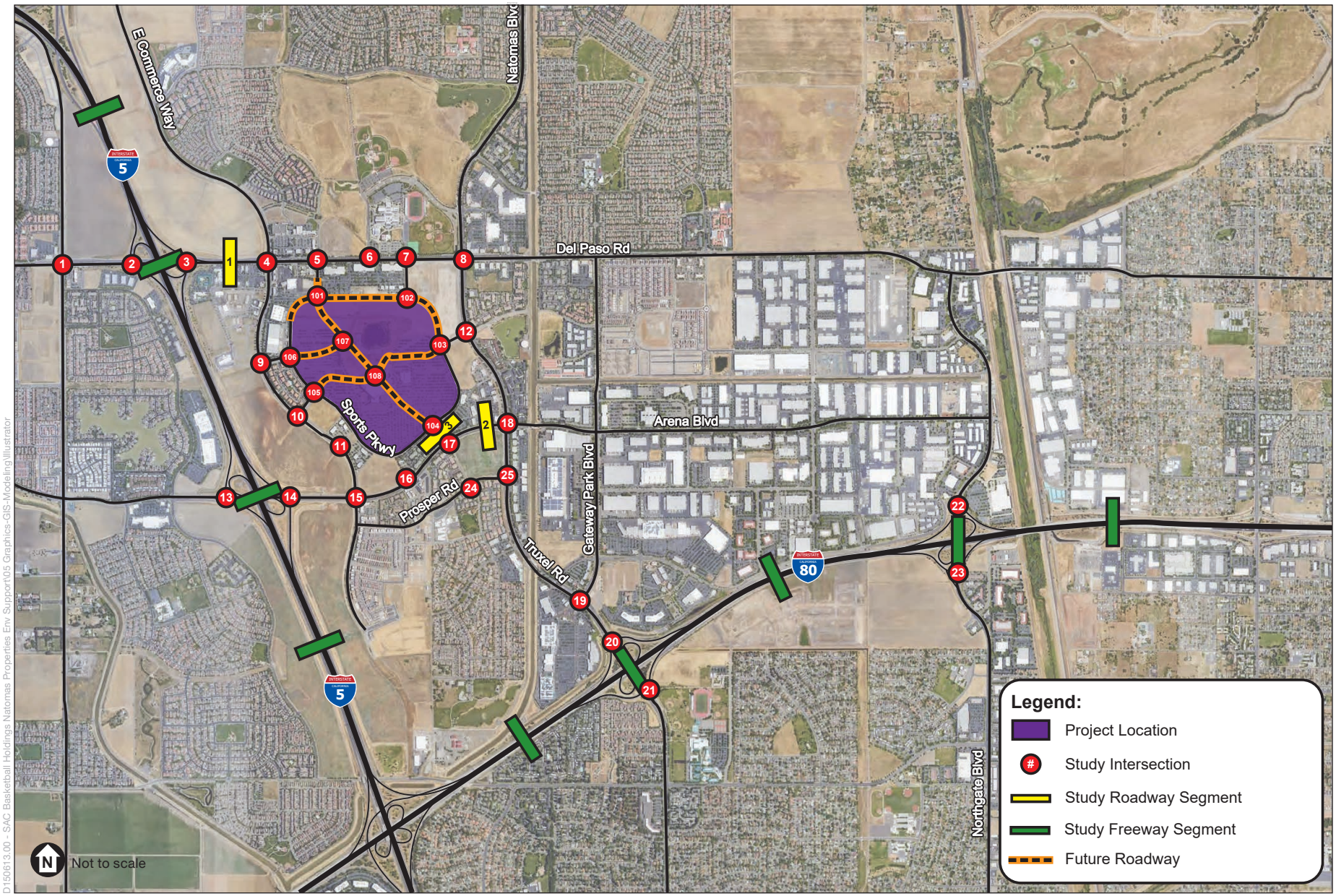
Table 4.10-9 summarizes the proposed project's vehicular trip generation—both internal and external trips. The proposed project is estimated to generate 68,195 daily trips, with 3,692 trips occurring during the a.m. peak hour and 5,075 trips occurring during the p.m. peak hour.

TABLE 4.10-9
VEHICULAR TRIP GENERATION ASSOCIATED WITH THE PROPOSED PROJECT

ITE Land Use	ITE Land Use Code	Project Size		Daily Trips	AM Peak-Hour				PM Peak-Hour			
					Total Trips	IN	/	OUT	Total Trips	IN	/	OUT
Total Trips												
Single-Family Detached Housing	210	307	Dwelling Unit(s)	2,920	223	56	/	167	298	188	/	110
Multifamily Housing (Mid-Rise)	221	687	Dwelling Unit(s)	3,744	226	59	/	167	282	172	/	110
Multifamily Housing (High-Rise)	222	1480	Dwelling Unit(s)	6,044	427	103	/	324	512	312	/	200
Senior Adult Housing-Attached	252	100	Dwelling Unit(s)	378	20	7	/	13	26	14	/	12
Hotel	310	78	Rooms	454	34	20	/	14	32	17	/	15
University / College	550	641	1,000 Sq Ft GLA	16,692	699	538	/	161	750	240	/	510
Hospital	610	400	Bed(s)	8,928	736	530	/	206	756	212	/	544
General Office Building	710	365.9	1,000 Sq Ft GLA	3,736	370	319	/	51	390	62	/	328
Medical-Dental Office Building	720	590	1,000 Sq Ft GLA	22,582	1,084	845	/	239	2,002	561	/	1,441
Shopping Center	820	342.4	1,000 Sq Ft GLA	13,884	323	200	/	123	1,351	648	/	703
Residential	Note 1	500	Dwelling Unit(s)	1,055	35	15	/	20	80	40	/	40
			Gross Trips Generated	**80,417**	**4,177**	**2,692**	**/**	**1,485**	**6480**	**2,466**	**/**	**4,014**
Internal Capture Trips												
Single-Family Detached Housing	210	307	Dwelling Unit(s)	(424)	(6)	(1)	/	(5)	(79)	(58)	/	(21)
Multifamily Housing (Mid-Rise)	221	687	Dwelling Unit(s)	(544)	(6)	(1)	/	(5)	(74)	(53)	/	(21)
Multifamily Housing (High-Rise)	222	1480	Dwelling Unit(s)	(878)	(12)	(2)	/	(10)	(134)	(96)	/	(39)
Senior Adult Housing-Attached	252	100	Dwelling Unit(s)	(54)	(1)	(0)	/	(0)	(7)	(4)	/	(2)
Hotel	310	78	Rooms	(138)	(13)	0	/	(13)	(7)	(5)	/	(2)
General Office Building	710	365.9	1,000 Sq Ft GLA	(244)	(28)	(16)	/	(11)	(18)	(3)	/	(15)
Medical-Dental Office Building	720	590	1,000 Sq Ft GLA	(1,480)	(96)	(44)	/	(53)	(92)	(28)	/	(64)
Shopping Center	820	342.4	1,000 Sq Ft GLA	(4,088)	(114)	(73)	/	(41)	(319)	(119)	/	(200)
			Internal Capture Reduction	**(7,850)**	**(276)**	**(138)**	**/**	**(138)**	**(730)**	**(365)**	**/**	**(365)**
			Trip Reductions due to Internal Capture[2]	**10%**	**7%**	**5%**	**/**	**9%**	**11%**	**15%**	**/**	**9%**
Additional Project Trip Reductions												
			Transit (Daily, AM=5%, PM = 5%) [3]	(4021)	(209)	(135)	/	(74)	(324)	(123)	/	(201)
			Pass-By Trips for Shopping Center (PM = 34%) [4,5]	(351)	0	0	/	0	(351)	(180)	/	(171)
			Net Project Trips	**68,195**	**3,692**	**2,419**	**/**	**1,273**	**5,075**	**1,798**	**/**	**3,277**

Notes:
1. Trip Rates taken from California Northstate University, Draft Transportation Analysis Report, dated July 14, 2020.
2. Internal capture rates from ITE Trip Generation Handbook, 3rd Edition published by the Institute of Transportation Engineers.
3. Transit trip reductions of 5 % was assumed during the AM and PM peaks, to account for existing and planned transit routes within the vicinity of the project site.
4. Pass-by reductions based on values contained in the Trip Generation Handbook, 3rd Edition published by the Institute of Transportation Engineers.
5. Daily pass-by trips only represent PM peak hour pass-by trips because no daily pass-by trip is resented in the ITE Trip Generation Handbook

GLA = Gross leasable area



SOURCE: Kimley-Horn, 2021

Innovation Park PUD

Figure 4.10-6
Study Area

ESA

Project Trip Distribution

Figure 4.10-7 and **Figure 4.10-8** illustrate a.m. and p.m. inbound project trip distribution, respectively, for both Existing (2021) and Cumulative (2040) plus Project Conditions, as predicted by the travel model. **Figure 4.10-9** and **Figure 4.10-10** illustrate a.m. and p.m. outbound project trip distribution, respectively, for both Existing (2021) and Cumulative (2040) plus Project Conditions, as predicted by the travel model.

Existing (2021) plus Proposed Project Conditions

Figure 4.10-11 illustrates the Existing (2021) plus Proposed Project Conditions intersection geometry (number of approach lanes and traffic control) and traffic volumes.

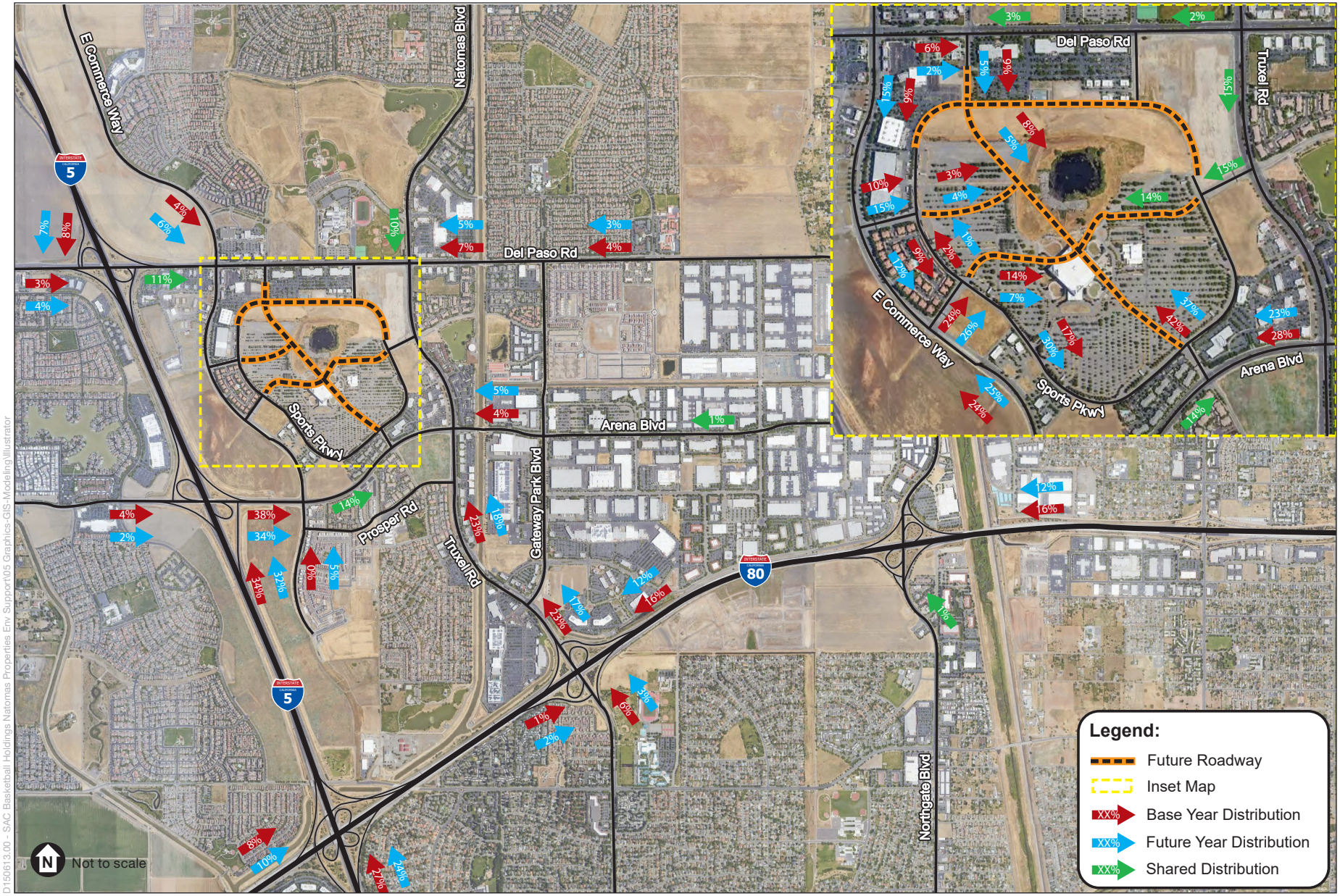
Table 4.10-10 summarizes Existing (2021) plus Proposed Project a.m. and p.m. peak-hour off-ramp queuing at the intersections in the transportation study area. As shown, all off-ramps are able to fully contain the queues without vehicles spilling back into the freeway during the a.m. and p.m. peak hours.

TABLE 4.10-10
QUEUING AT FREEWAY RAMP TERMINI DURING PEAK HOURS—EXISTING (2021) PLUS PROPOSED PROJECT CONDITIONS

Intersection/Analysis Scenario	Movement	A.M. Peak Hour		P.M. Peak Hour	
		Available Storage (ft)	95th % Queue (ft)	Available Storage (ft)	95th % Queue (ft)
#2, Del Paso Road @ I-5 SB Ramps	SBL	1,130	180	1,130	165
	SBR	1,130	125	1,130	70
#3, Del Paso Road @ I-5 NB Ramps	NBL	1,300	135	1,300	265
	NBR	1,300	175	1,300	335
#13, Arena Blvd. @ I-5 SB Off-Ramp	SBL	1,430	555	1,430	65
	SBR	865	170	865	80
#14, Arena Blvd. @ I-5 NB Off-Ramp	NBL	1,160	895	1,160	740
	NBR	1,160	930	1,160	790
#20, Truxel Road @ I-80 WB Ramps	WBL	1,690	145	1,690	130
	WBR	1,690	250	1,690	210
#21, Truxel Road @ I-80 EB Ramps	EBR	1,450	265	1,450	160
	EBR	1,450	100	1,450	105
#22, Northgate Blvd. @ I-80 WB Ramps	WBL	1,420	120	1,420	115
#23, Northgate Blvd. @ I-80 EB Ramps	EBL	1,290	155	1,290	50

NOTES: Blvd. = Boulevard; EB = eastbound; EBL = eastbound left; EBR = eastbound right; ft = feet; NB = northbound; NBL = northbound left; NBR = northbound right; SB = southbound; SBL = southbound left; SBR = southbound right; WB = westbound; WBL = westbound left; WBR= westbound right

SOURCE: Kimley-Horn. 2021. *Local Transportation Analysis (LTA): Natomas Area Reuse, Sacramento, California.* Final. Prepared for City of Sacramento. August 20, 2021.

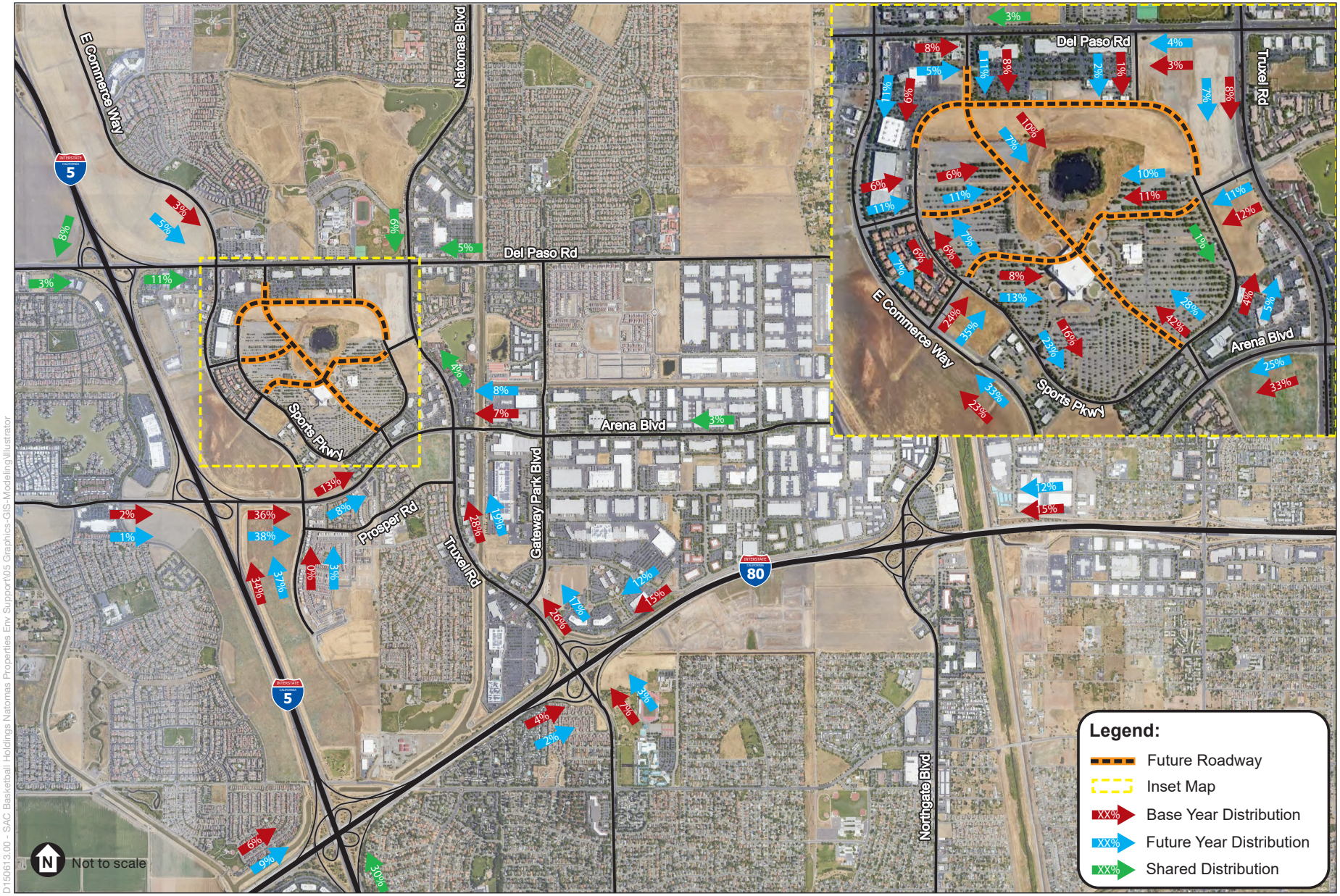


SOURCE: Kimley-Horn, 2021

Innovation Park PUD

Figure 4.10-7
Project AM Peak-hour Inbound Trip Distribution

ESA

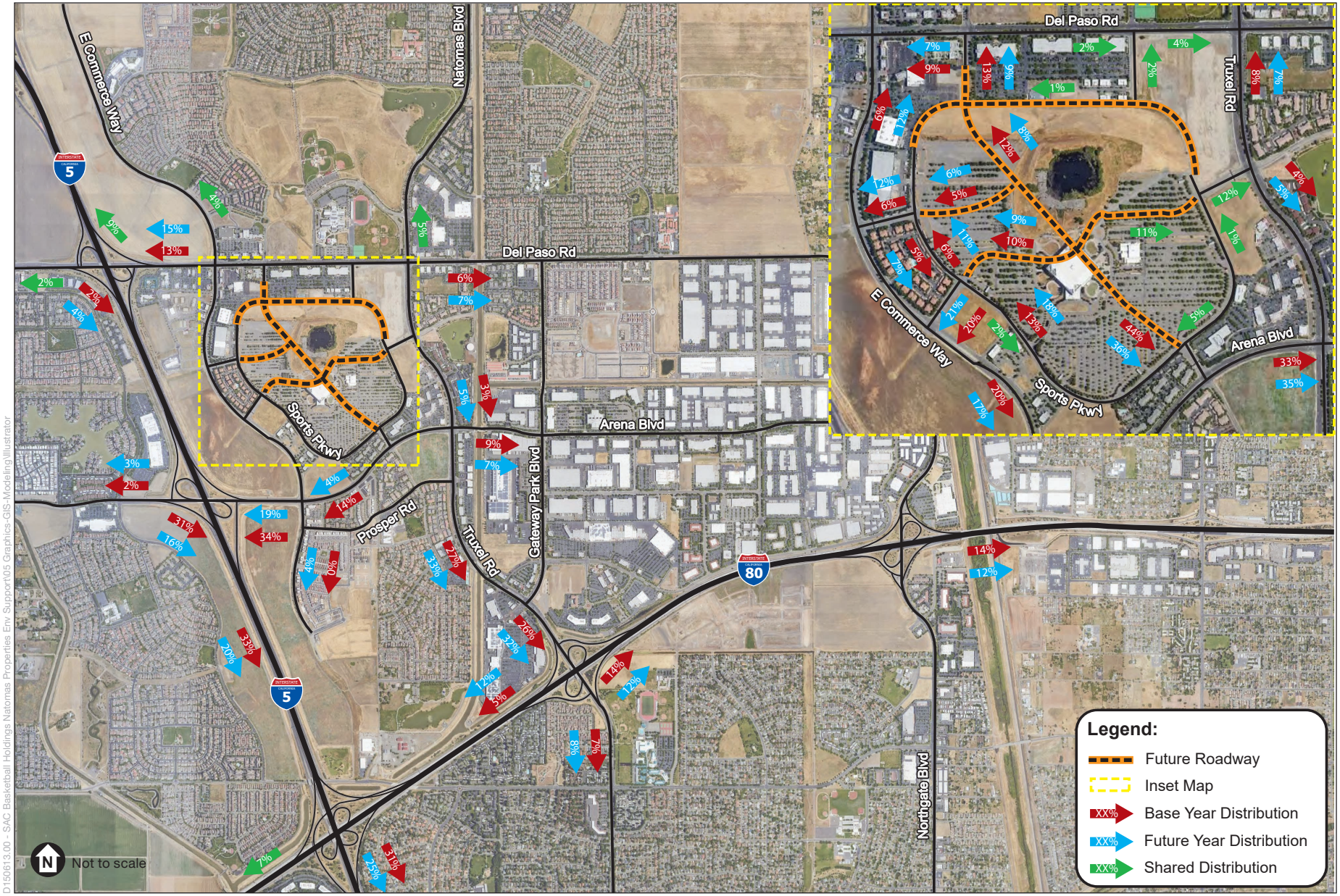


SOURCE: Kimley-Horn, 2021

Innovation Park PUD

Figure 4.10-8
Project PM Peak-hour Inbound Trip Distribution

ESA



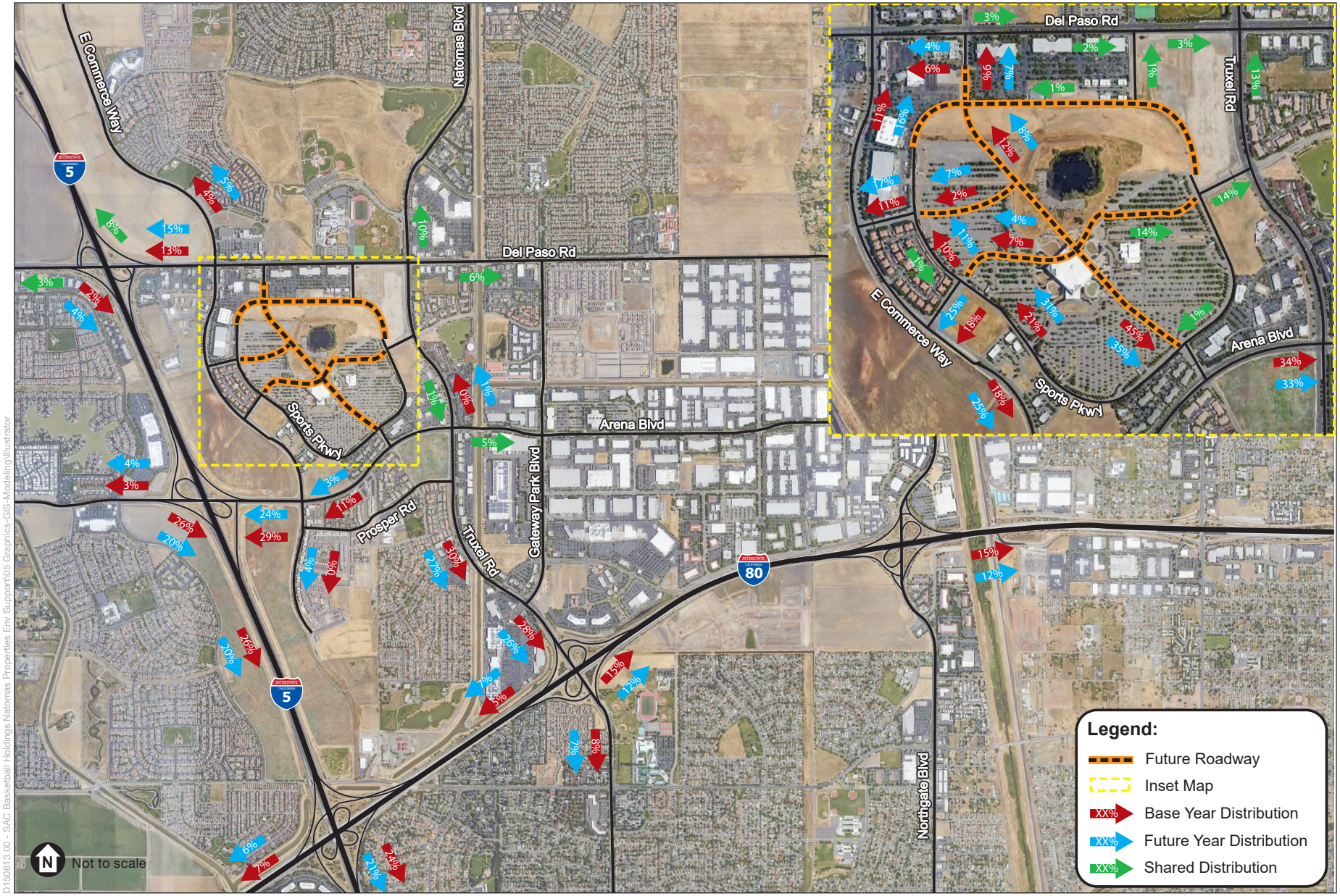
D1506613.00 - SAC Basketball Holdings Natomas Properties Env Support\05 Graphics-GIS-Modeling\Illustrator

SOURCE: Kimley-Horn, 2021

Innovation Park PUD

Figure 4.10-9
Project AM Peak-hour Outbound Trip Distribution

ESA

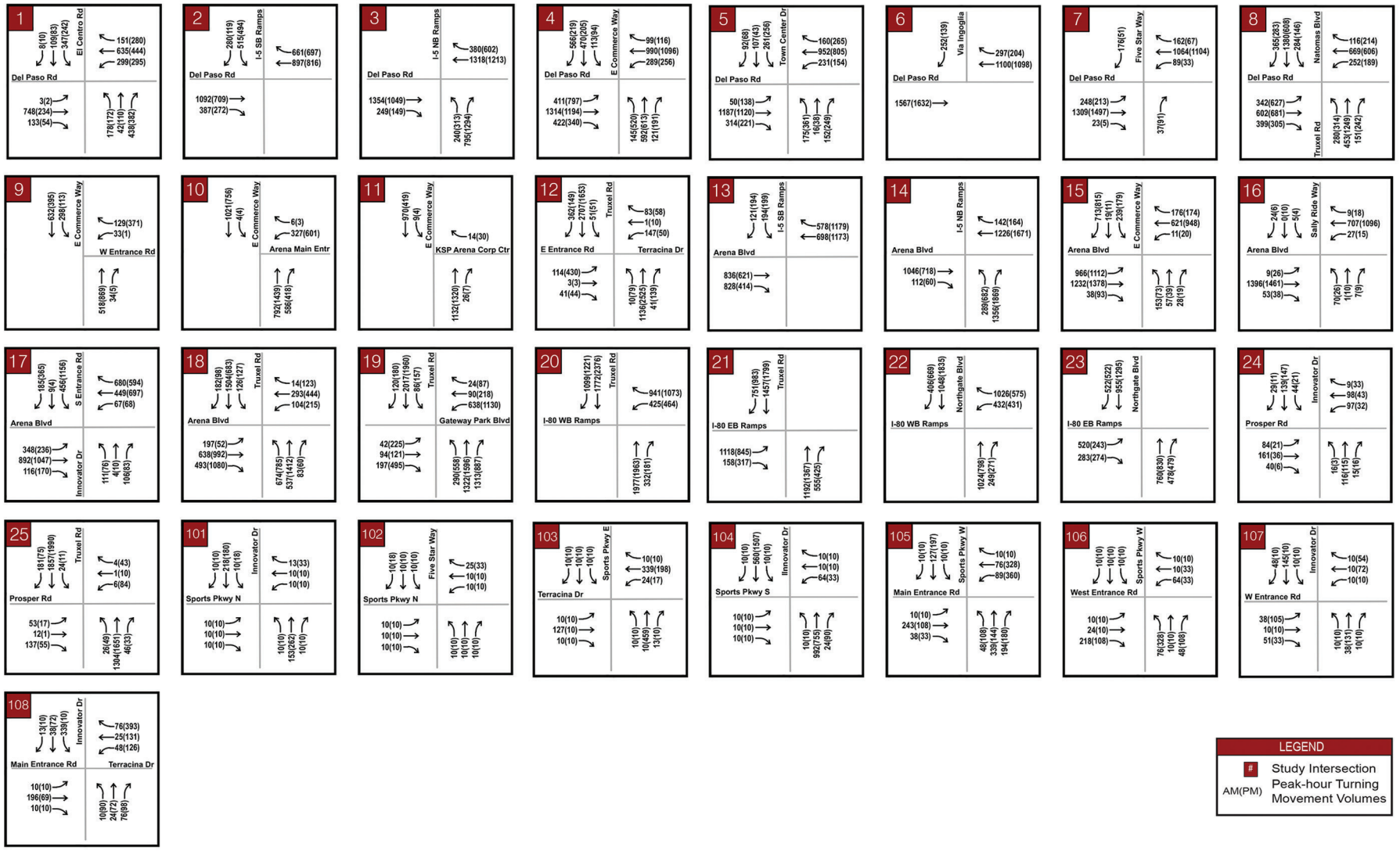


SOURCE: Kimley-Horn, 2021

Innovation Park PUD

Figure 4.10-10
Project PM Peak-hour Outbound Trip Distribution

ESA



D150613.00 - SAC Basketball Holdings Natomas Properties Env Support\05 Graphics-GIS-Modeling\Illustrator

SOURCE: Kimley-Horn, 2021

Innovation Park PUD

Figure 4.10-11
Existing Plus Project Traffic Volumes

ESA

Table 4.10-11 summarizes the Existing (2021) plus Proposed Project a.m. and p.m. peak-hour on-ramp queuing for the on-ramps that contain ramp metering. As shown, all on-ramps are able to fully contain the queues without vehicles spilling back into the arterial roadway during the a.m. and p.m. peak hours.

TABLE 4.10-11
QUEUING AT FREEWAY ON-RAMPS DURING PEAK HOURS—EXISTING (2021) PLUS PROJECT CONDITIONS

Intersection	Ramp	Storage (ft)	Peak Hour	Queue (ft)
Del Paso Rd. @ I-5 SB Ramps (Intersection #2)	Loop On-Ramp	520	a.m.	80
			p.m.	87
Del Paso Rd. @ I-5 SB Ramps (Intersection #2)	Diagonal On-Ramp	1,220	a.m.	108
			p.m.	84
Arena Blvd. @ I-5 SB Ramps (Intersection #13)	Loop On-Ramp	840	a.m.	111
			p.m.	142
Arena Blvd. @ I-5 SB Ramps (Intersection #13)	Diagonal On-Ramp	1,030	a.m.	677
			p.m.	102
Arena Blvd. @ I-5 NB Ramps (Intersection #14)	Diagonal On-Ramp	940	a.m.	57
			p.m.	62
Arena Blvd. @ I-5 NB Ramps (Intersection #14)	Loop On-Ramp	630	a.m.	52
			p.m.	41
Truxel Rd. @ I-80 WB Ramps (Intersection #20)	Diagonal On-Ramp	1,260	a.m.	125
			p.m.	161
Truxel Rd. @ I-80 WB Ramps (Intersection #20)	Loop On-Ramp	820	a.m.	60
			p.m.	48
Truxel Rd. @ I-80 EB Ramps (Intersection #21)	Loop On-Ramp	870	a.m.	87
			p.m.	111
Truxel Rd. @ I-80 EB Ramps (Intersection #21)	Diagonal On-Ramp	1,250	a.m.	162
			p.m.	111
Northgate Blvd. @ I-80 WB Ramps (Intersection #22)	Diagonal On-Ramp	1,380	a.m.	120
			p.m.	290
Northgate Blvd. @ I-80 WB Ramps (Intersection #22)	Loop On-Ramp	770	a.m.	78
			p.m.	84
Northgate Blvd. @ I-80 EB Ramps (Intersection #23)	Loop On-Ramp	790	a.m.	73
			p.m.	74
Northgate Blvd. @ I-80 EB Ramps (Intersection #23)	Diagonal On-Ramp	1,210	a.m.	67
			p.m.	69

NOTES: Blvd. = Boulevard; EB = eastbound; ft = feet; I-5 = Interstate 5; I-80 = Interstate 80; NB = northbound; Rd. = Road; SB = southbound; WB = westbound

Queues that exceed storage by more than one vehicle length (25 feet) are **bolded**. If the project would cause the queue to exceed the storage or would cause a queue already exceeding the storage by more than one vehicle length, the queue is shaded.

SOURCE: Kimley-Horn. 2021. *Local Transportation Analysis (LTA): Natomas Area Reuse, Sacramento, California.* Final. Prepared for City of Sacramento. August 20, 2021.

Cumulative (2040) Conditions

The Cumulative (2040) Conditions scenario assumes no occupied development within the site and no usable internal roadways.

Figure 4.10-12 illustrates the Cumulative (2040) Conditions intersection geometry (number of approach lanes and traffic control) and traffic volumes.

Freeway Facilities

Table 4.10-12 summarizes the Cumulative (2040) Conditions a.m. and p.m. peak-hour off-ramp queuing at the intersections in the transportation study area. As shown, all off-ramps are able to fully contain the queues without vehicles spilling back into the freeway during a.m. and p.m. peak hours.

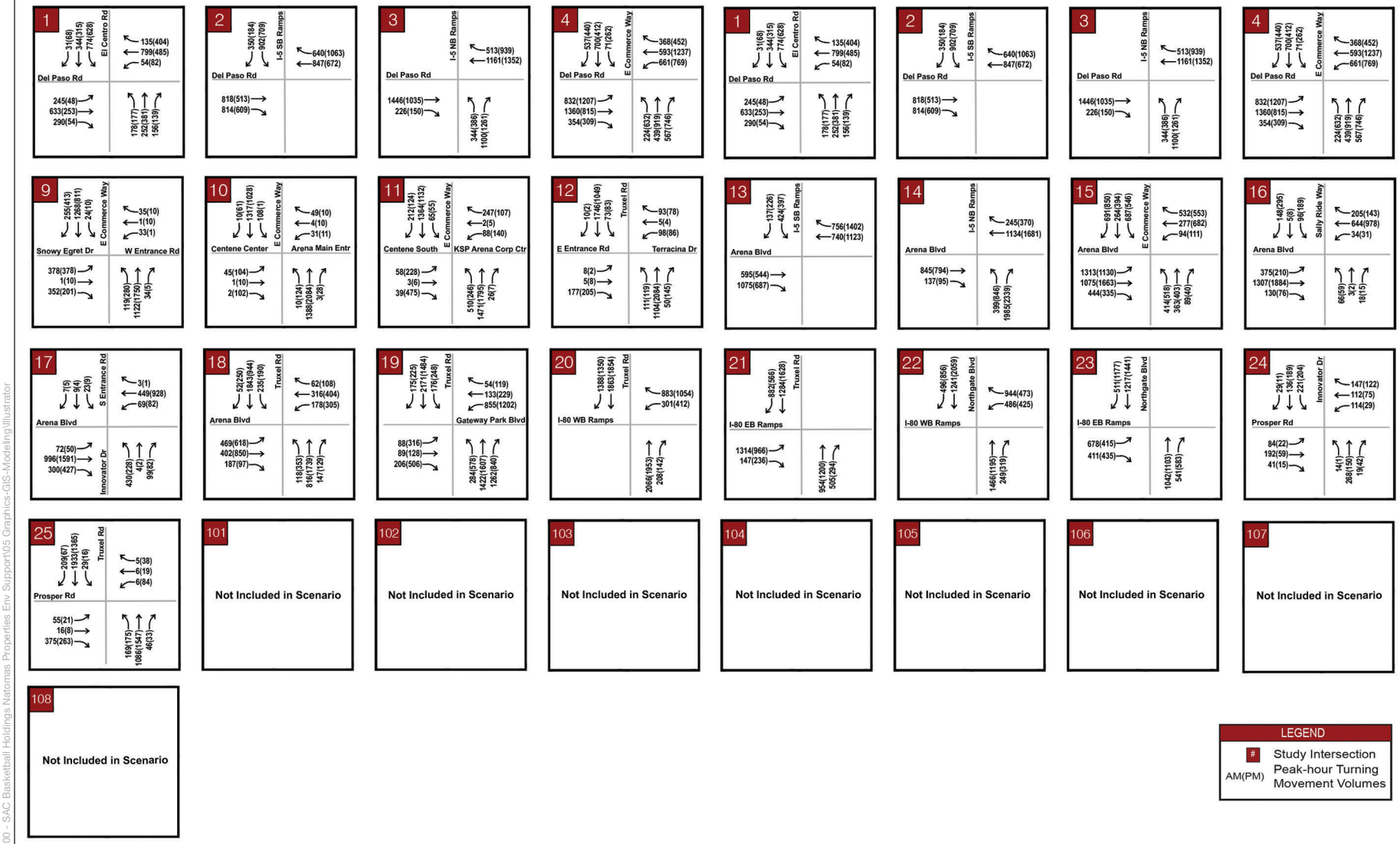
TABLE 4.10-12
QUEUING AT FREEWAY RAMP TERMINI DURING PEAK HOURS—CUMULATIVE (2040) CONDITIONS

Intersection/Analysis Scenario	Movement	A.M. Peak Hour		P.M. Peak Hour	
		Available Storage (ft)	95th % Queue (ft)	Available Storage (ft)	95th % Queue (ft)
#2, Del Paso Road @ I-5 SB Ramps	SBL	1,130	630	1,130	300
	SBR	1,130	1,005	1,130	320
#3, Del Paso Road @ I-5 NB Ramps	NBL	1,300	230	1,300	235
	NBR	1,300	295	1,300	920
#13, Arena Blvd. @ I-5 SB Off-Ramp	SBL	1,430	95	1,430	95
	SBR	865	70	865	90
#14, Arena Blvd. @ I-5 NB Off-Ramp	NBL	1,160	1,005	1,160	730
	NBR	1,160	730	1,160	750
#20, Truxel Road @ I-80 WB Ramps	WBL	1,690	95	1,690	130
	WBR	1,690	340	1,690	125
#21, Truxel Road @ I-80 EB Ramps	EBR	1,450	215	1,450	180
	EBR	1,450	65	1,450	90
#22, Northgate Blvd. @ I-80 WB Ramps	WBL	1,420	115	1,420	115
#23, Northgate Blvd. @ I-80 EB Ramps	EBL	1,290	165	1,290	115

NOTES: Blvd. = Boulevard; EB = eastbound; EBL = eastbound left; EBR = eastbound right; ft = feet; NB = northbound; NBL = northbound left; NBR = northbound right; SB = southbound; SBL = southbound left; SBR = southbound right; WB = westbound; WBL = westbound left; WBR = westbound right

Source: Kimley-Horn. 2021. *Local Transportation Analysis (LTA): Natomas Area Reuse, Sacramento, California.* Final. Prepared for City of Sacramento. August 20, 2021.

Table 4.10-13 summarizes the Cumulative (2040) Conditions a.m. and p.m. peak-hour on-ramp queuing for the on-ramps that contain ramp metering. As shown, all on-ramps are able to fully contain the queues without vehicles spilling back into the arterial roadway during the a.m. and p.m. peak hours, except for the diagonal on-ramp at Intersection #13 during the a.m. peak hour and the diagonal on-ramp at Intersection #22 during the p.m. peak hour. When the ramp meter



SOURCE: Kimley-Horn, 2021

Innovation Park PUD

Figure 4.10-12
Cumulative Volumes

ESA

TABLE 4.10-13
QUEUING AT FREEWAY ON-RAMPS DURING PEAK HOURS—CUMULATIVE (2040) CONDITIONS

Intersection	Ramp	Storage (ft)	Peak Hour	Queue (ft)
Del Paso Rd. @ I-5 SB Ramps (Intersection #2)	Loop On-Ramp	520	a.m.	49
			p.m.	128
Del Paso Rd. @ I-5 SB Ramps (Intersection #2)	Diagonal On-Ramp	1,220	a.m.	83
			p.m.	198
Arena Blvd. @ I-5 SB Ramps (Intersection #13)	Loop On-Ramp	840	a.m.	96
			p.m.	238
Arena Blvd. @ I-5 SB Ramps (Intersection #13)	Diagonal On-Ramp	1,030	a.m.	**1,063**
			p.m.	280
Arena Blvd. @ I-5 NB Ramps (Intersection #14)	Diagonal On-Ramp	940	a.m.	73
			p.m.	97
Arena Blvd. @ I-5 NB Ramps (Intersection #14)	Loop On-Ramp	630	a.m.	54
			p.m.	49
Truxel Rd. @ I-80 WB Ramps (Intersection #20)	Diagonal On-Ramp	1,260	a.m.	221
			p.m.	223
Truxel Rd. @ I-80 WB Ramps (Intersection #20)	Loop On-Ramp	820	a.m.	49
			p.m.	47
Truxel Rd. @ I-80 EB Ramps (Intersection #21)	Loop On-Ramp	870	a.m.	102
			p.m.	77
Truxel Rd. @ I-80 EB Ramps (Intersection #21)	Diagonal On-Ramp	1,250	a.m.	137
			p.m.	88
Northgate Blvd. @ I-80 WB Ramps (Intersection #22)	Diagonal On-Ramp	1,380	a.m.	160
			p.m.	**1,668**
Northgate Blvd. @ I-80 WB Ramps (Intersection #22)	Loop On-Ramp	770	a.m.	81
			p.m.	97
Northgate Blvd. @ I-80 EB Ramps (Intersection #23)	Loop On-Ramp	790	a.m.	72
			p.m.	161
Northgate Blvd. @ I-80 EB Ramps (Intersection #23)	Diagonal On-Ramp	1,210	a.m.	73
			p.m.	75

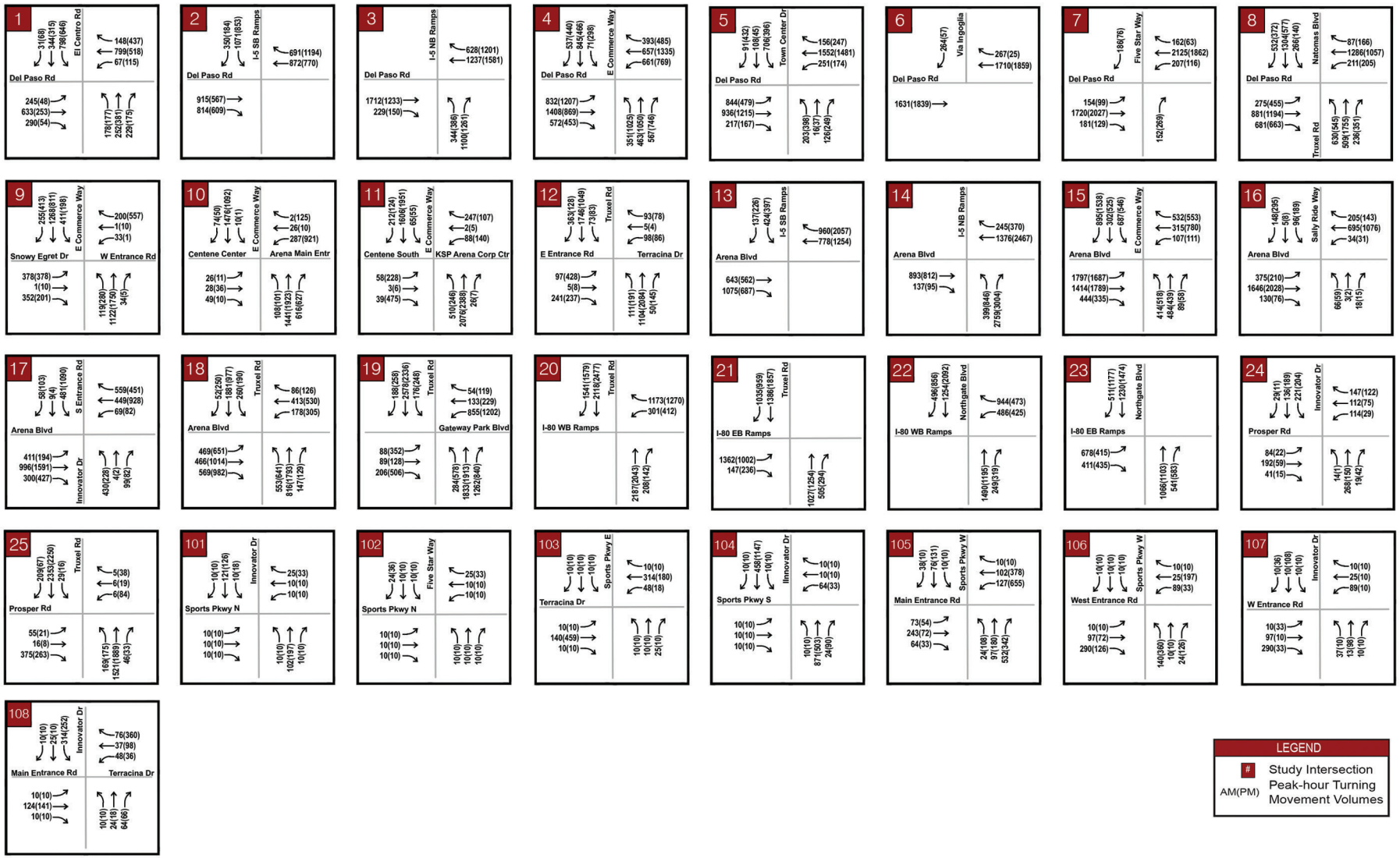
NOTES: Blvd. = Boulevard; EB = eastbound; ft = feet; I-5 = Interstate 5; I-80 = Interstate 80; NB = northbound; Rd. = Road; SB = southbound; WB = westbound
Queues that exceed storage by more than one vehicle length (25 feet) are **bolded**.

SOURCE: Kimley-Horn. 2021. *Local Transportation Analysis (LTA): Natomas Area Reuse, Sacramento, California.* Final. Prepared for City of Sacramento. August 20, 2021.

cycle length was reduced from nine seconds to seven seconds, a two-second reduction between green times, both queues were reduced to below the available storage. This indicates that with increased demand, a dynamically timed ramp meter would not cause the queue to exceed the storage provided.

Cumulative (2040) plus Proposed Project Conditions

Figure 4.10-13 illustrates Cumulative (2040) plus Proposed Project intersection geometry (number of approach lanes and traffic control) and traffic volumes.



D150613.00 - SAC Basketball Holdings Natomas Properties Env Support\05 Graphics-GIS-Modeling\Illustrator

SOURCE: Kimley-Horn, 2021

Innovation Park PUD

Figure 4.10-13
Cumulative Plus Project Volumes

ESA

Freeway Facilities

Table 4.10-14 summarizes the Cumulative (2040) plus Proposed Project a.m. and p.m. peak-hour off-ramp queuing at the intersections in the transportation study area. As shown, all off-ramps are able to fully contain the queues without vehicles spilling back into the freeway during the a.m. and p.m. peak hours. It should be noted that even though the proposed project does not add any trips to the southbound right movement at Intersection #2, the increase in queue is likely caused by the increase in volume to the southbound left movement blocking access to the southbound right movement. This queue can be reduced by providing additional green time to the southbound movements.

TABLE 4.10-14
QUEUING AT FREEWAY RAMP TERMINI DURING PEAK HOURS—
CUMULATIVE (2040) PLUS PROPOSED PROJECT CONDITIONS

Intersection/Analysis Scenario	Movement	A.M. Peak Hour		P.M. Peak Hour	
		Available Storage (ft)	95th % Queue (ft)	Available Storage (ft)	95th % Queue (ft)
#2, Del Paso Road @ I-5 SB Ramps	SBL	1,130	600	1,130	640
	SBR	1,130	1,015	1,130	1,070
#3, Del Paso Road @ I-5 NB Ramps	NBL	1,300	120	1,300	825
	NBR	1,300	260	1,300	715
#13, Arena Blvd. @ I-5 SB Off-Ramp	SBL	1,430	95	1,430	105
	SBR	865	65	865	85
#14, Arena Blvd. @ I-5 NB Off-Ramp	NBL	1,160	1,005	1,160	920
	NBR	1,160	735	1,160	810
#20, Truxel Road @ I-80 WB Ramps	WBL	1,690	95	1,690	120
	WBR	1,690	570	1,690	260
#21, Truxel Road @ I-80 EB Ramps	EBR	1,450	320	1,450	190
	EBR	1,450	135	1,450	105
#22, Northgate Blvd. @ I-80 WB Ramps	WBL	1,420	110	1,420	125
#23, Northgate Blvd. @ I-80 EB Ramps	EBL	1,290	160	1,290	120

NOTES: Blvd. = Boulevard; EB = eastbound; EBL = eastbound left; EBR = eastbound right; ft = feet; NB = northbound; NBL = northbound left; NBR = northbound right; SB = southbound; SBL = southbound left; SBR = southbound right; WB = westbound; WBL = westbound left; WBR = westbound right

SOURCE: Kimley-Horn. 2021. *Local Transportation Analysis (LTA): Natomas Area Reuse, Sacramento, California.* Final. Prepared for City of Sacramento. August 20, 2021.

Table 4.10-15 summarizes the Cumulative (2040) plus Proposed Project a.m. and p.m. peak-hour on-ramp queuing for the on-ramps that contain ramp metering. As shown, all on-ramps are able to fully contain the queues without vehicles spilling back into the arterial roadway during the a.m. and p.m. peak hours, except for the diagonal on-ramp at Intersection #13 during the a.m. peak hour and the diagonal on-ramp at Intersection #22 during the p.m. peak hour. However, in both cases, the proposed project adds only 6 feet of additional queue length, or less than one vehicle length, and therefore has a negligible effect on the queue length. In addition, when the ramp meter cycle length was reduced from nine seconds to seven seconds, a two-second reduction

between green times, both queues were reduced to below the available storage. This indicates that with increased demand, a dynamically timed ramp meter would not cause the queue to exceed the storage provided.

TABLE 4.10-15
QUEUING AT FREEWAY ON-RAMPS DURING PEAK HOURS—
CUMULATIVE (2040) PLUS PROPOSED PROJECT CONDITIONS

Intersection	Ramp	Storage (ft)	Peak-Hour	Queue (ft)
Del Paso Rd. @ I-5 SB Ramps (Intersection #2)	Loop On-Ramp	520	a.m.	87
			p.m.	155
Del Paso Rd. @ I-5 SB Ramps (Intersection #2)	Diagonal On-Ramp	1,220	a.m.	640
			p.m.	172
Arena Blvd. @ I-5 SB Ramps (Intersection #13)	Loop On-Ramp	840	a.m.	118
			p.m.	805
Arena Blvd. @ I-5 SB Ramps (Intersection #13)	Diagonal On-Ramp	1,030	a.m.	**1,069**
			p.m.	220
Arena Blvd. @ I-5 NB Ramps (Intersection #14)	Diagonal On-Ramp	940	a.m.	74
			p.m.	105
Arena Blvd. @ I-5 NB Ramps (Intersection #14)	Loop On-Ramp	630	a.m.	57
			p.m.	47
Truxel Rd. @ I-80 WB Ramps (Intersection #20)	Diagonal On-Ramp	1,260	a.m.	732
			p.m.	942
Truxel Rd. @ I-80 WB Ramps (Intersection #20)	Loop On-Ramp	820	a.m.	53
			p.m.	45
Truxel Rd. @ I-80 EB Ramps (Intersection #21)	Loop On-Ramp	870	a.m.	121
			p.m.	107
Truxel Rd. @ I-80 EB Ramps (Intersection #21)	Diagonal On-Ramp	1,250	a.m.	140
			p.m.	85
Northgate Blvd. @ I-80 WB Ramps (Intersection #22)	Diagonal On-Ramp	1,380	a.m.	143
			p.m.	**1,674**
Northgate Blvd. @ I-80 WB Ramps (Intersection #22)	Loop On-Ramp	770	a.m.	80
			p.m.	100
Northgate Blvd. @ I-80 EB Ramps (Intersection #23)	Loop On-Ramp	790	a.m.	69
			p.m.	136
Northgate Blvd. @ I-80 EB Ramps (Intersection #23)	Diagonal On-Ramp	1,210	a.m.	74
			p.m.	76

NOTES: Blvd. = Boulevard; EB = eastbound; ft = feet; I-5 = Interstate 5; I-80 = Interstate 80; NB = northbound; Rd. = Road; SB = southbound; WB = westbound

Queues that exceed storage by more than one vehicle length (25 feet) are **bolded**.

SOURCE: Kimley-Horn. 2021. *Local Transportation Analysis (LTA): Natomas Area Reuse, Sacramento, California.* Final. Prepared for City of Sacramento. August 20, 2021.

Impacts and Mitigation Measures

Impact 4.10-1: The proposed project's VMT per capita (residents and employment) could exceed 85 percent of the existing average for the SACOG region.

Innovation Park PUD

Two key factors influence a project's VMT: density of the development and accessibility to destinations.

Residential and Nonresidential Uses

Increased density affects the distance people travel and provides greater options for the mode of travel they choose. Buildout of the proposed Innovation Park PUD, including the CNU Medical Center, would add approximately 5,829 residents and 9,542 employees to the project area. As described above and summarized in **Table 4.10-16**, both residential VMT per capita and nonresidential VMT per employee generated by the Innovation Park PUD would be less than 85 percent of the SACOG regional averages for residential and nonresidential uses. Therefore, the VMT impact from implementation of the Innovation Park PUD would be **less than significant**.

TABLE 4.10-16
SUMMARY OF VEHICLE MILES TRAVELED IMPACTS FOR THE INNOVATION PARK PLANNED UNIT DEVELOPMENT

Proposed Land Use	Population	Total VMT	VMT per Capita/ Employee	Regional Average VMT by Use	Project Percent of Regional Average VMT by Use	Regional Significance Threshold	Project VMT Exceeds Regional Threshold?
Residential	5,829	87,526	15.0	20.8	72%	17.7	No
Nonresidential	9,542	166,547	17.8	21.3	83.6%	18.1	No

NOTE: VMT = vehicle miles traveled

SOURCE: Kimley-Horn. 2021. *Local Transportation Analysis (LTA): Natomas Area Reuse, Sacramento, California.* Final. Prepared for City of Sacramento. August 20, 2021.

Retail Land Uses

Local-serving retail primarily serves preexisting needs (i.e., it does not generate new trips because it meets existing demand). The Governor's Office of Planning and Research's *Technical Advisory on Evaluating Transportation Impacts in CEQA* provides for a general threshold of 50,000 square feet per establishment as an indicator of whether a retail store can be considered local-serving or not. Based on the understanding that no single store within the estimated 342,400 square feet of retail uses anticipated to be developed pursuant to the Innovation Park PUD would exceed 50,000 square feet, it is presumed that the VMT-related impact of the proposed retail uses would be **less than significant**. If regional-serving retail is ultimately determined to be part of the project, those sites would need to be evaluated on their own merits as detailed project descriptions become available in the future.

CNU Medical Center

Medical Land Uses

Development of the proposed CNU Medical Center would be anticipated to attract new vehicle trips from within the project area and redistributed trips to other medical land uses within the

region, potentially resulting in shorter trip lengths between existing healthcare facilities in the region when the hospital opens for service.

Currently, the only hospitals in the city of Sacramento are three hospitals in the city's downtown core—Sutter Medical Center, Sacramento; Mercy General Hospital; and the University of California, Davis Medical Center—and two hospitals in the southern part of the city, Methodist Hospital of Sacramento and Kaiser Permanente South Sacramento Medical Center. Because there are no hospitals in Natomas and the northern part of the city, hospital trips originating from those areas would be shortened with the addition of the hospital located within the project area. Therefore, the VMT impact of the hospital land use would be **less than significant**.

Medical University Land Uses

The proposed medical university located in Parcel D has been determined to be local-serving and would have a negligible effect on regional VMT. The proposed medical school is a specialized school that would serve students who would attend the university for a specific purpose and would either live on campus or locate themselves closer to the school than they are currently located. In addition, with the medical university's association with the hospital located on Parcel D, many of the commute trips normally made by much of the staff would already be occurring for the hospital. For those staff members not associated with the hospital, such as many of the support staff, their average VMT was found to be less than the regional threshold as noted above. Thus, the impact on regional VMT from VMT related to students and staff of the proposed medical university would be **less than significant**.

Mitigation Measure

None required.

Impact 4.10-2: Implementation of the proposed project could adversely affect the existing or planned bicycle or pedestrian facilities or could fail to adequately provide for access by bicycles or pedestrians.

Innovation Park PUD

There are existing and planned bicycle facilities in the vicinity of the project area. Although the proposed project would not result in the removal of any existing or planned pedestrian facility or bikeway/bike lane, the project may increase pedestrian and bicycle demand in the project area and nearby vicinity. The proposed project would include on-street bike lanes on all major and minor collector roadways in the project area. Internal bikeways in the project area would connect to on-street facilities on Del Paso Road, Arena Boulevard, East Commerce Way, and Truxel Road at the gateways of the project area.

Internal pathways and crosswalks would provide pedestrian circulation throughout the project area. For these reasons, impacts on bicycle and pedestrian facilities from implementation of the Innovation Park PUD would be **less than significant**.

CNU Medical Center

The Innovation Park PUD would include on-street bike lanes on all major and minor collector roadways in the project area. Bicycle and pedestrian amenities would be provided throughout the CNU Medical Center campus. At buildout, and in every phase, bicycle parking would exceed the requirements of the City's minimum requirements,[6] with a total of 1,409 bicycle parking spots provided at buildout. Access to bike lanes and sidewalks along the surrounding backbone roadway streets would also be provided.

The proposed CNU Medical Center campus would include an extensive network of pedestrian paths that would connect uses in all campus development zones, and would provide connections to the pedestrian network of sidewalks in the larger Innovation Park PUD area.

The proposed CNU Medical Center would provide bicycle and pedestrian facilities on-site, and would provide connections to planned bicycle and pedestrian facilities in the Innovation Park PUD area, which would be designed and constructed to provide pedestrian and bicycle connectivity to surrounding areas. Therefore, the anticipated impact of the CNU Medical Center on pedestrian and bicycle facilities would be **less than significant**.

Mitigation Measure

None required.

Impact 4.10-3: Implementation of the proposed project could adversely affect public transit operations and could fail to adequately provide access to transit.

Innovation Park PUD

The proposed Innovation Park PUD would not adversely affect existing public transit operations. Transit service near the project area is limited and does not overlap with the development footprint of the Innovation Park PUD. The project's transit demand would be low because of the low expectation of access to transit due to the typical large walking distance to existing transit services in North Natomas. However, it is anticipated that some project residents would utilize existing and future planned transit services where accessible. Future buildout of the SacRT Green Line light rail is anticipated to include a stop near the northeast boundary of the Innovation Park PUD area, providing regional transit access to the project. As described in the Innovation Park PUD, Section 5.3, *Public Transit,* the PUD is foreseen to be a transit-ready urban environment through the inclusion of transit-supportive plan elements. These include:

- Transit-oriented urban form and land uses – transit supportive public realm, employment, and residential densities, and convenience shopping, dining, and services;
- Variety of housing choices – higher-density apartments, townhomes, attached single family;

6 City of Sacramento Code Title 17, Section 17.608.030(C).

- Strong connections – well connected, multimodal roads, with convenient, accessible travel options including pedestrian, cycle, and vehicles; and
- Well-defined core area/destination, with convenient "last-mile connectivity."

Through inclusion of the transit-supportive plan elements described above, the development of the Innovation Park PUD is anticipated to facilitate increased demand for transit and the expansion of transit services to serve the transit demand created by the Innovation Park PUD. Further, the roadway system within the Innovation Park PUD would include adequate right of way to provide for the future development of transit facilities by transit service providers. However, because of the uncertain nature of future services provided by regional and local transit agencies, the potential exists that the proposed project would not provide adequate access to transit. For this reason, impacts of the proposed Innovation Park PUD on transit would be **significant**.

CNU Medical Center

`The proposed CNU Medical Center would not adversely affect existing public transit operations. As with the rest of the project area, transit service near the site of the proposed CNU Medical Center is limited. However, the proposed hospital would add transit demand and the proposed CNU Medical Center would not provide adequate access to transit. As noted in the PUD, Section 5.3.1, *Potential Light Rail Extension and Station,* the potential exists for a shuttle provided by the Hospital to transport people from the planned future Sacramento RT light rail station to the CNU Medical Center. However, as with the full Innovation Park PUD area, due to the uncertain nature of future services provided by regional and local transit agencies, the adequacy of access to transit provided by the CNU Medical Center, cannot be determined at this time. For this reason, impacts of the proposed CNU Medical Center on transit would be **significant**.

Mitigation Measure

Mitigation Measure 4.10-3 (PUD, CNU): Implement Measures to Provide Transit Access.

The applicants for individual projects proposed under the Innovation Park PUD shall coordinate with SacRT (or other transit operators) to plan, fund, and implement transit facilities that would support access to transit services provided by SacRT, or other transit agencies. Transit facilities shall be phased with the development of the project.

Significance After Mitigation: Mitigation Measure 4.10-3 (PUD, CNU) would ensure that the applicants for individual projects proposed under the Innovation Park PUD would coordinate with transit providers to facilitate the adequate expansion of transit services and facilities to serve the proposed Innovation Park PUD area, including the site of the proposed CNU Medical Center (e.g. right of way for transit stops, bus stops/shelters, pedestrian and bicycle network connections to stop locations). Implementation of Mitigation Measure 4.10-3 would reduce this impact to a **less-than-significant** level.

Impact 4.10-4: Implementation of the proposed project could result either in off-ramp queuing at freeway facilities that is greater than the storage capacity or in on-ramp queuing for metered on-ramps that is greater than the storage capacity.

Innovation Park PUD and CNU Medical Center

The proposed Innovation Park PUD, including the CNU Medical Center, would contribute vehicle traffic to freeway facilities near the project area. Table 4.10-10 summarizes the Existing (2021) plus Proposed Project Conditions off-ramp queuing at intersections in the transportation study area during the a.m. and p.m. peak hours. As shown, all off-ramps are able to fully contain the queues without vehicles spilling back into the freeway during a.m. and p.m. peak hours. Table 4.10-11 summarizes the Existing (2021) plus Proposed Project on-ramp queuing during the a.m. and p.m. peak hours for the on-ramps that contain ramp metering. As shown, all on-ramps are able to fully contain the queues without vehicles spilling back into the arterial roadway during a.m. and p.m. peak hours. Therefore, implementation of the proposed project would not result in off-ramp or on-ramp queuing at freeway facilities that would exceed storage capacity, and this impact would be **less than significant**.

Mitigation Measures

None required.

Impact 4.10-5: Implementation of the proposed project could cause inconveniences to motorists as a result of prolonged road closures and could result in an increased frequency of potential conflicts between vehicles, pedestrians, and bicyclists due to construction-related traffic impacts.

Innovation Park PUD

Construction of development allowed under the Innovation Park PUD may temporarily disrupt the transportation network near the project area. Roadway lanes, streets, sidewalks, and bikeways could be temporarily closed, and pedestrian and bicycle access may be disrupted. Heavy vehicles, equipment, and trucks would access the project area and may need to be staged for construction. These activities could result in the degradation of roadway operating conditions. These temporary impacts would be **significant**.

CNU Medical Center

Construction of the proposed CNU Medical Center is anticipated to disrupt the transportation network in and near the project area. Construction traffic impacts could include temporary closures of roadway lanes, streets, sidewalks, and bikeways; pedestrian and bicycle access may be disrupted. Heavy vehicles, equipment, and trucks would access the site and may need to be staged for construction. These activities could result in the degradation of roadway operating conditions. These temporary impacts would be **significant**.

Mitigation Measure

Mitigation Measure 4.10-5 (PUD, CNU): Implement Construction Traffic Control Plan.

Before the beginning of construction, the applicants for individual projects proposed under the Innovation Park PUD shall prepare a construction traffic plan that complies with Sacramento City Codes § 12.20.020, § 12.20.030, and is prepared to the satisfaction of the city traffic engineer with the City's Department of Public Works and subject to review by all affected agencies as identified by the City. The plan shall ensure that acceptable operating conditions on roadways, bicycle and pedestrian facilities, and transit facilities are maintained. At a minimum, the plan shall include the following elements:

- Description of trucks: Number and size of trucks per day, expected arrival/departure times, and truck circulation patterns which do not substantially conflict with Sacramento General Plan, Mobility Element Policies M 7.1.5 and M 7.1.6.
- Description of staging area: Location, maximum number of trucks simultaneously permitted in the staging area, use of traffic control personnel, and specific signage.
- Description of street closures and/or bicycle and pedestrian facility closures: Duration, advance warning and posted signage, safe and efficient access routes for emergency vehicles, and use of manual traffic control, subject to approval by the city traffic engineer per Sacramento City Code § 10.08.090.
- Description of access plan: Provisions for safe vehicular, pedestrian, and bicycle travel; minimum distance from any open trench; special signage; and private vehicle accesses.
- Provisions for parking for construction workers.

Significance After Mitigation: Mitigation Measure 4.10-5 (PUD, CNU) would reduce the impact of the proposed project to a **less-than-significant** level by requiring the applicants for individual projects proposed under the Innovation Park PUD to maintain multimodal circulation at acceptable operating levels and ensure the safety of vehicular, bicycle, and pedestrian travel throughout the project area during construction.

Cumulative Impacts and Mitigation Measures

Impact 4.10-6: Implementation of the proposed project, in combination with other development, could contribute to cumulative conditions where VMT per capita or VMT per employee could exceed 85 percent of their existing corresponding averages for the SACOG region.

The analysis in Impact 4.10-1 described how the proposed Innovation Park PUD, including the CNU Medical Center, would result in a less-than-significant VMT impact, as the average VMT per capita and VMT per employee generated by the proposed project would be less than the SACOG regional thresholds of significance. SACOG's travel demand model was used to develop background traffic growth rates for the Cumulative (2040) scenarios. Analyses were performed for the residential and employment-based land uses for Cumulative (2040) plus Proposed Project

Conditions. The methodologies for conducting this analysis are identical to the ones described above, but rather than add the proposed project to the base-year scenario of SACSIM, the project was added to the future-year scenario, designed to represent 2040 conditions. The proposed project's residential population and employees are identical between the two scenarios, although the number of employees located within the SACOG region increased from 9,343 for Existing (2021) Conditions to 9,389 for Cumulative (2040) Conditions, an increase of 46 employees.

Residential Uses

As shown in Table 4.10-3, the proposed project's residential land uses produced 81,481 daily VMT, down from 87,526 daily VMT for Existing (2021) plus Proposed Project Conditions. When combined with the number of people estimated to live in the project area (5,829 residents), the proposed project is estimated to produce 14.0 VMT per capita, down from 15.0 VMT per capita for Existing (2021) plus Proposed Project Conditions. Consistent with the finding for Existing (2021) plus Proposed Project Conditions, based on the SACOG regional threshold shown, 17.7 VMT per capita, the residential land uses are expected to not exceed the regional threshold for Cumulative (2040) plus Proposed Project Conditions, and VMT related to residents would not be cumulatively considerable.

Nonresidential Uses

As shown in Table 4.10-4, the proposed project's nonresidential land uses would produce 148,790 daily VMT related to work trips, down from 166,547 daily VMT for Existing (2021) plus Proposed Project Conditions. When combined with the number of employees estimated to work in the project area from within the SACOG region, the proposed project is estimated to produce 15.8 VMT per employee, down from 17.8 VMT per employee for Existing (2021) plus Proposed Project Conditions. Consistent with the finding for Existing (2021) plus Proposed Project Conditions, based on the SACOG regional threshold shown, 18.1 VMT per employee, the nonresidential land uses are expected to not exceed the regional threshold for Cumulative (2040) plus Proposed Project conditions, and VMT related to employees would not be cumulatively considerable.

Therefore, because regionwide VMT per capita is expected to decrease in the cumulative scenario, the impact would be **less than significant**.

Mitigation Measure

None required.

Impact 4.10-7: Implementation of the proposed project and cumulative development could adversely affect the existing or planned bicycle or pedestrian facilities or could fail to adequately provide for access by bicycles or pedestrians.

There are existing and planned bicycle and pedestrian facilities in the vicinity of the project area. Although the proposed project would not result in the removal of any existing or planned pedestrian facility or bikeway/bike lane, the project and cumulative development would increase pedestrian and bicycle demand in the project area and vicinity. Pedestrian circulation facilities in

the project area would include sidewalks and pedestrian paths. The proposed project would include on-street bike lanes on all major and minor collector roadways in the project area. Internal bikeways in the project area would connect to on-street facilities on Del Paso Road, Arena Boulevard, East Commerce Way, and Truxel Road at the gateways of the project area.

Cumulative development, including the Innovation Park PUD and CNU Medical Center, would be subject to Sacramento 2035 General Plan policies. These policies require that development be consistent with the applicable provisions of the Pedestrian Master Plan (Policy M 2.1.1); that all new roadway projects and reconstruction projects designate sufficient travel space for all users including bicyclists, pedestrians, transit riders, and motorists (Policy M 4.2.1); and that street projects support pedestrian and bicycle travel in areas with high levels of pedestrian activity (Policy M 4.2.2).

With consideration of City policies and practices, the Innovation Park PUD, including the CNU Medical Center, and cumulative development would not be anticipated to adversely affect existing or planned bicycle facilities. The proposed project and cumulative development would provide for access to bicycle and pedestrian facilities by implementing City General Plan policies through the planning and entitlement process. Cumulative impacts related to bicycle and pedestrian facilities would be **less than significant**.

Mitigation Measure

None required.

Impact 4.10-8: Implementation of the proposed project and cumulative development could adversely affect public transit operations and could fail to adequately provide access to transit.

The proposed Innovation Park PUD, including the CNU Medical Center, and cumulative development would not adversely affect public transit operations. Transit service near the project area is limited. The transit demand of the project and cumulative development is and would be low because of the low expectation of access to transit due to the typical large walking distance to existing transit services in North Natomas. However, future buildout of the SacRT Green Line light rail is anticipated to include stops at points through North Natomas, including a stop near the northeast boundary of the Innovation Park PUD area, providing regional transit access to the Innovation Park PUD area and other areas within the North Natomas community. As described in the Innovation Park PUD, Section 5.3, *Public Transit,* the PUD is foreseen to be a transit-ready urban environment through the inclusion of transit-supportive plan elements. Through inclusion of the transit-supportive plan elements described in the Impact 4.10-3 discussion above, the development of the Innovation Park PUD is anticipated to facilitate increased demand for transit and the expansion of transit services to serve the transit demand created by the Innovation Park PUD. Further, the roadway system within the Innovation Park PUD would include adequate right of way to provide for the future development of transit facilities by transit service providers. Due to the size of the Innovation Park PUD area and its location within North Natomas (near other key development projects), it is anticipated surrounding uses would also benefit from and utilize expanded transit services that may be attracted by buildout of the Innovation Park PUD.

However, because of the uncertain nature of future services provided by regional and local transit agencies, the potential exists that the proposed project along with cumulative development would not provide adequate access to transit. Therefore, Project and cumulative impacts on transit would be cumulatively **significant**.

Mitigation Measure

Mitigation Measure 4.10-3 (PUD, CNU): Implement Measures to Provide Transit Access.

See Impact 4.10-3, above, for the text of this mitigation measure.

Significance After Mitigation: Mitigation Measure 4.10-3 (PUD, CNU) would ensure that applicants for individual projects proposed under the Innovation Park PUD coordinate with transit providers to facilitate the adequate expansion of transit services and facilities to serve the project area, including the site of the proposed CNU Medical Center (e.g., right of way for transit stops, bus stops/shelters, pedestrian and bicycle network connections to stop locations). With implementation of Mitigation Measure 4.10-3, this contribution of the proposed project to this significant cumulative impact would be reduced to **less than cumulatively considerable**.

Impact 4.10-9: Implementation of the proposed project and cumulative development could result either in off-ramp queuing at freeway facilities that is greater than the storage capacity or in on-ramp queuing for metered on-ramps that is greater than the storage capacity.

The proposed Innovation Park PUD, including the CNU Medical Center, and cumulative development would contribute vehicle traffic to freeway facilities near the project area. Table 4.10-10 summarizes the Existing (2021) plus Proposed Project Conditions off-ramp queuing at the study area intersections in the transportation study area during the a.m. and p.m. peak hours. As shown, all off-ramps are able to fully contain the queues without vehicles spilling back into the freeway during the a.m. and p.m. peak hours. Table 4.10-11 summarizes the Existing (2021) plus Proposed Project Conditions on-ramp queuing during the a.m. and p.m. peak hours for the on-ramps that contain ramp metering. As shown, all on-ramps are able to fully contain the queues without vehicles spilling back into the arterial roadway during a.m. and p.m. peak hours. Therefore, implementation of the proposed project would not result in off-ramp queuing at freeway facilities that would exceed storage capacity, and this impact would be **less than significant**.

Table 4.10-14 summarizes the Cumulative (2040) Conditions off-ramp queuing at the intersections in the transportation study area during the a.m. and p.m. peak hours. As shown, all off-ramps are able to fully contain the queues without vehicles spilling back into the freeway during a.m. and p.m. peak hours. The transportation analysis identified an increase in volume to the southbound I-5 ramp to Del Paso Road, which is attributable to an increase in volume to the southbound left movement from non-project trips, blocking access to the southbound right movement. The proposed project would not add trips to the southbound right movement, and this queue can be reduced through adjustments to signal timing.

Table 4.10-15 summarizes the Cumulative (2040) Conditions on-ramp queuing during the a.m. and p.m. peak hours for the on-ramps that contain ramp metering. As shown, all on-ramps are able to fully contain the queues without vehicles spilling back into the arterial roadway during the a.m. and p.m. peak hours, except for the diagonal southbound I-5 on-ramp from Arena Boulevard during the a.m. peak hour and the diagonal westbound I-80 on-ramp from Northgate Boulevard during the p.m. peak hour. However, in both cases, the Innovation Park PUD would add only 6 feet of additional queue length, or less than one vehicle length, and therefore would have a negligible effect on queue length under cumulative conditions. In addition, ramp meter cycle length can be adjusted to reduce queues for both on-ramps to within the available storage capacity for those freeway facilities. This indicates that under cumulative conditions, adjustments to signal timing and dynamically timed ramp meters would limit queuing to the extent that queue lengths at all affected freeway facilities would not exceed the storage provided by those facilities, which would be a **less-than-significant** cumulative impact.

Mitigation Measure

None required.

Impact 4.10-10: Implementation of the proposed project along with cumulative development could cause inconveniences to motorists as a result of prolonged road closures and could result in an increased frequency of potential conflicts between vehicles, pedestrians, and bicyclists due to construction-related traffic impacts.

Construction of development allowed under the Innovation Park PUD, including the CNU Medical Center, and cumulative development may temporarily disrupt the transportation network near the project area. Roadway lanes, streets, sidewalks, and bikeways could be temporarily closed, and pedestrian and bicycle access may be disrupted. Heavy vehicles, equipment, and trucks would access the site and nearby cumulative development sites and may need to be staged for construction. These activities could result in degraded roadway operating conditions. Therefore, these temporary impacts would be cumulatively **significant**.

Mitigation Measures

Mitigation Measure 4.10-5 (PUD, CNU): Implement Construction Traffic Control Plan.

See Impact 4.10-5, above, for the text of this mitigation measure.

Significance After Mitigation: Mitigation Measure 4.10-5 (PUD, CNU) would reduce the impact of the project to a **less than cumulatively considerable** level by requiring applicants for individual projects proposed under the Innovation Park PUD to maintain multimodal circulation and ensure for the safety of vehicular, bicycle, and pedestrian travel, throughout the project area during construction through implementation of a construction traffic plan.

4.11 Utilities and Service Systems

This section describes existing utilities and service systems that serve the area of the proposed Innovation Park PUD, including the site of the proposed CNU Medical Center (together referred to herein as the *proposed project*). Utilities and service systems described in this section include water supply and conveyance, wastewater treatment and conveyance, stormwater conveyance, solid waste collection and disposal, and electricity, natural gas and telecommunications. Pertinent federal, state, and local regulations and requirements are reviewed. Potential impacts of the proposed project on utilities and service systems are discussed, and, as warranted, mitigation measures that could avoid or minimize the magnitude of potential impacts are presented. This section discusses potential impacts on stormwater conveyance facilities; for a discussion of stormwater quality management, see Section 4.0, *Introduction to the Analysis*.

Comments regarding utilities and service systems were received during the Notice of Preparation comment period for this EIR, all stating that the City should continue consultation with utility providers to ensure that the EIR addresses impacts on the utility and infrastructure network and the provision of service to the project area. These comments are addressed below.

The analysis in this section was developed based on project-specific construction and operational features, data provided by the City regarding existing water use, and additional data and information gathered from the Sacramento 2035 General Plan, Sacramento 2035 General Plan Master EIR, Sacramento 2035 General Plan Background Report, the City of Sacramento Draft 2020 Urban Water Management Plan (UWMP), a Water Supply Assessment (Appendix I) and other published technical reports, as indicated in footnoted references.

4.11.1 Water Supply

This section describes the city of Sacramento's overall water supplies and the water supply and conveyance system that serves the project area, including the proposed CNU Medical Center site. The section assesses the water demand expected to result with implementation of the proposed project; evaluates the effects of the project on existing and future water infrastructure; and where appropriate, recommends measures that could avoid or reduce the magnitude of significant impacts.

Environmental Setting

Surface Water

Most of Sacramento's water supply comes from surface water diversions pursuant to the City's surface water rights and entitlements. These consist of water rights established before 1914 (pre-1914 rights), water rights established after 1914, and a settlement contract the City has with the U.S. Bureau of Reclamation (Reclamation). Each of these is discussed briefly below.

The City's pre-1914 appropriative rights entitle the City to surface water from the Sacramento River. The City's right is based on the use of Sacramento River water since 1854; this pre-1914 appropriative right allows for direct diversion of 75 cubic feet per second (cfs) from the Sacramento River.

The City's post-1914 Sacramento River rights are reflected in five water rights permits issued by the State Water Resources Control Board (SWRCB) or its predecessor, the State Water Rights Board. Permit 992 authorizes the City to take up to 81,800 acre-feet per year (AFY) from the Sacramento River by direct diversion, with a maximum diversion of 225 cfs, and has a priority date of March 30, 1920. This permit sets a boundary around the area in which the City is allowed to use diverted Sacramento River water (the *place of use*): the area within the legal city limits, an area that changes from time to time through annexations.

The City has four additional water right permits, which authorize diversions of American River water. Permits 11358 and 11361, which authorize the City to divert water from the American River by direct diversion, have priority dates of October 29, 1947, and September 22, 1954, respectively. These permits allow for diversions at the City's E. A. Fairbairn Water Treatment Plant (FWTP), on the south bank of the American River just downstream from the Howe Avenue Bridge, and specify a combined maximum allowable rate of diversion of 675 cfs. The authorized place of use for both permits is 79,500 acres within and adjacent to the city limits.

The final two permits (Permits 11359 and 11360) authorize re-diversion for consumptive uses[1] of American River tributary water previously diverted by Sacramento Municipal Utility District's (SMUD's) Upper American River Project (UARP). Permits 11359 and 11360 have priority dates of February 13, 1948, and July 29, 1948, respectively, and the place of use for both permits is 96,000 acres within and adjacent to the city limits. These permits allow for diversions at the FWTP and at the City's Sacramento River Water Treatment Plant (SRWTP), located on the east bank of the Sacramento River between the American River confluence and the I Street Bridge. The combined maximum allowable re-diversions under these permits are up to 1,510 cfs of UARP direct diversion water and up to 589,000 AFY of UARP stored water.

In addition, the City entered into a water rights settlement contract with Reclamation in 1957 after Reclamation's construction of Folsom Dam, which provides improved flood control to downstream communities. The essence of the City/Reclamation settlement contract is that the City agreed to (1) limit its combined rate of diversion under its American River water rights permits to a maximum of 675 cfs, up to a maximum amount of 245,000 AFY in the year 2030, and (2) limit its rate of diversion under its Sacramento River water rights permit to a maximum of 225 cfs and a maximum amount of 81,800 AFY. This limits the City's total diversions of Sacramento and American River water to 326,800 AFY in the year 2030 (**Table 4.11-1**). The contract also specifies an annual build-up schedule to this maximum amount (**Table 4.11-2**).

In return, the contract requires Reclamation to make enough water available in the rivers at all times to enable the City's agreed-upon diversions. The City agreed to make an annual payment to Reclamation for Folsom Reservoir storage capacity used to meet Reclamation's obligations under the contract, beginning with payment for 8,000 acre-feet (AF) of storage capacity in 1963 and building up, more or less linearly, to payment for the use of 90,000 AF of storage capacity in

[1] Water used consumptively diminishes the source and is not available for other uses, whereas non-consumptive water use does not diminish the source or impair future water use. *Consumptive water use* is defined as any use of water that causes a diminishment of the source at the point of appropriation. *Diminishment* is defined as to make smaller or less in quantity, quality, rate of flow, or availability. Surface water use is non-consumptive when there is no diversion from the water source or diminishment of the source.

2030. The water rights settlement contract is permanent and has no delivery limitations. The Reclamation contract, in conjunction with the City's water rights, provides the City with a reliable and secure water supply.

TABLE 4.11-1
SUMMARY OF THE CITY OF SACRAMENTO'S POST-1914 WATER RIGHTS

Application or License Number	Priority Date	Source	Maximum Amount Specified*		Purpose of Use	Season of Diversion and Re-diversion	Place of Use	Deadline to Perfect Full Use
			(cfs)	(AFY)				
A. 1743 P. 992	3/30/1920	Sacramento River	225	81,800	Municipal	January 1–December 31	City of Sacramento	12/31/2030
A. 12140 P. 11358	10/29/1947	American River	675	245,000	Municipal	November 1–August 1	79,500 acres within and adjacent to the city limits	12/31/2030
A. 16060 P. 11361	9/22/1954	Tributaries of the American River			Municipal	November 1–August 1	79,500 acres within and adjacent to the city limits	12/31/2030
A. 12321 P. 11359	2/13/1948	Tributaries of the American River	1,510	589,000	Municipal	November 1–August 1	96,000 acres within and adjacent to the city limits	12/31/2030
A. 12622 P. 11360	7/29/1948	Tributaries of the American River			Municipal	November 1–August 1	96,000 acres within and adjacent to the city limits	12/31/2030
Maximum Diversion Amount			**900**	**326,800**				

NOTES: AFY = acre-feet per year; cfs = cubic feet per second

[1] Permits 11359, 11360, and 11361 allow for re-diversion of surface water tributaries within SMUD's UARP into the American River. Permits 11359 and 11360 allow for re-diversion at 1,510 cfs at the FWTP and at the SRWTP for up to 589,000 AFY of stored UARP water.

[*] Amounts shown reflect the 1957 water rights settlement agreement between the City of Sacramento and the U.S. Bureau of Reclamation, as discussed in the text in this section.

SOURCE: City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan*. Jointly prepared by City of Sacramento and West Yost Associates. June 2021.

TABLE 4.11-2
MAXIMUM DIVERSION SCHEDULE (ACRE-FEET PER YEAR) IN THE SETTLEMENT CONTRACT BETWEEN THE CITY AND RECLAMATION

Source	2025	2030	2035	2040	2045
American River	228,000	245,000	245,000	245,000	245,000
Sacramento River	81,800	81,800	81,800	81,800	81,800
Total	**309,800**	**326,000**	**326,800**	**326,800**	**326,800**

NOTES: City = City of Sacramento; Reclamation = U.S. Bureau of Reclamation

SOURCE: City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan*. Jointly prepared by City of Sacramento and West Yost Associates. June 2021.

The City's diversions of American River water at the FWTP are also subject, during certain time periods, to limitations specified in the Water Forum Agreement (WFA). The Water Forum was established in 1993 by a group of water managers, local governments, business leaders, agricultural leaders, environmentalists, and citizen groups with two "co-equal" goals: to provide a reliable and safe water supply through the year 2030, and to preserve the wildlife, fishery, recreational, and aesthetic values of the Lower American River. After six years of intense interest-based negotiations, the Water Forum participants approved the 2000 WFA.

Several factors can affect the allocation of water supply from the American River. When March to November unimpaired flow into Folsom Reservoir (UIFR) is greater than 1.6 MAF then no annual WF restrictions are applied. However, other restrictions could be in effect such as the CVP shortage criteria. As part of the WFA, each water purveyor signed a purveyor-specific agreement (PSA) that specified that purveyor's Water Forum commitments. The City's PSA limits the quantity of water it can divert from the American River at the FWTP during two hydrologic conditions: extremely dry water years ("Conference Years")[2] and periods when river flows are below the so-called "Hodge Flow criteria."[3]

The City's PSA defines extremely dry water years Conference Years as years in which the California Department of Water Resources projects an annual March to November UIFR of 550,000 AFY or less, or the UIFR is less than 400,000 AFY. In Conference Years, the City has agreed to limit its diversions for water treated at the FWTP to 155 cfs and 50,000 AFY. Conference Years have occurred on the American River only twice during the 72-year period of record for historical hydrology. Even though California is experiencing a historic drought; this is not a Conference Year as the final unimpaired inflow to Folsom Reservoir was greater than 400,000 AF.

In addition to Conference Years, the City's PSA specifies limitations on the City's diversion rate at the FWTP when American River flows bypassing the FWTP are less than the Hodge Flow criteria as follows: 2,000 cfs from October 15 through February; 3,000 cfs from March through June; and 1,750 cfs from July through October 14.

Based on CalSim II[4] analysis of 1922 to 1994 climate data, in 59 percent of years the American River is predicted to experience flows that are less than Hodge Flow conditions at some time during the peak months of June through August. When flows passing the FWTP are greater than the Hodge Flow criteria and Conference Year conditions do not exist, the PSA allows diversions of American River water up to the FWTP's current maximum rate of 310 cfs (200 million gallons per day [mgd]).

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2 Conference" years occur when Mar-Nov UIFR is less than 400 TAF. In those years diverters and others are required to meet and confer on how best to meet demands and protect the American.

3 A "Hodge Year" occurs when the Mar-Nov UIFR is less than 1,600 TAF. In the case of *EDF v. East Bay Municipal Utility District* (Superior Court, Alameda County, 1990, No. 425955), the court (Judge Hodge) established minimum flow levels that would have to be met in the American River for East Bay Municipal Utility District to divert water into the Folsom South Canal. These flow levels have come to be known as "Hodge Flows." "Hodge Flow trigger" which affects diversions at the Fairbairn treatment plant when the LAR flow is less than 3,000 cfs during Mar-Jun; 2) Less than 2,000 cfs from October 16-Feb; and 3) Less than 1,750 cfs from JulyOct15.

4 CalSim is the model used to simulate California State Water Project/Central Valley Project operations. CalSim II is the latest version of CalSim available for use.

It is important to note that the WFA does not restrict diversion under the City's American River entitlements from a Sacramento River diversion point (which leaves the water in the American River throughout its reaches). Therefore, during a Conference Year condition, the City's annual surface water diversion amounts are limited only by the FWTP Conference Year condition and the diversion and treatment capacity at the SRWTP. Assuming a maximum treatment capacity of 50,000 AFY at the FWTP and 180,000 AFY at the SRWTP, the current drought-limiting scenario allows surface water production of 230,000 AFY.

Groundwater

The City obtains the majority of its water supply from surface water in the American and Sacramento Rivers; groundwater makes up the balance of its water supplies. Groundwater for municipal uses resides in the North Sacramento Groundwater Basin and the Central Sacramento Groundwater Basin. Based on production capabilities, the City expects to pump up to 24.175 mgd or 27,083 AF in 2025 and would continue to use groundwater to supplement its surface water supplies over the next 20 years (**Table 4.11-3**).

TABLE 4.11-3
CITY OF SACRAMENTO GROUNDWATER SUPPLIES

	Projected Water Supply Volume (acre-feet)*				
	2025	**2030**	**2035**	**2040**	**2045**
City of Sacramento	27,083	31,107	35,131	39,155	39,155

NOTE:
* Based on sustainable target pumping of 20,591 AF from the North American Subbasin and up to approximately 19,000 AF from the South American Subbasin.

SOURCE: City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan*. Jointly prepared by City of Sacramento and West Yost Associates. June 2021

The City pumps groundwater from wells in both the North American Subbasin and the South American Subbasin of the Sacramento Valley Groundwater Basin. The North American Subbasin is bounded by the Bear River to the north, the Feather River to the west, the Sacramento and American Rivers to the south, and a north-south line extending from the Bear River to Folsom Lake to the east. The South American Subbasin is bounded by the Sierra Nevada to the east, the Sacramento River to the west, the American River to the north, and the Cosumnes and Mokelumne Rivers to the south.

The City extracts groundwater from 28 municipal wells; 26 of the wells are located north of the American River in the North American Subbasin and the other two wells extract groundwater from the South American Subbasin. However, only 23 of these wells are currently operated on a regular basis to supply municipal water. The City has recently constructed three additional water supply wells. While not fully operational, these wells are expected to be permitted and functioning in 2021.[5] The City also owns and operates 22 irrigation/park supply wells.

[5] City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan.* Jointly prepared by City of Sacramento and West Yost Associates. June 2021. Page 3-9.

The City is one of many water purveyors that use groundwater from the North American and South American Subbasins. Although the City pumps from both subbasins, more than 90 percent of the City's groundwater is pumped from the North American Subbasin.[6] For example, in 2020, the City pumped 19,022 AF of groundwater from the North American Subbasin and 1,407 AF from the South American Subbasin for potable water consumption.[7]

In 2014, the Sacramento Groundwater Authority (SGA) prepared a groundwater management plan (GMP) for the portion of the North American Subbasin located between the American River and the Sacramento County line. Additionally, as a result of the Water Forum Successor Effort, the Central Sacramento County Groundwater Management Plan was prepared. These two plans identify measures to be taken to maintain a sustainable, high-quality groundwater resource.

The Water Forum Agreement identified a sustainable yield for the North American Subbasin of 131,000 AFY.[8] The SGA monitored groundwater extractions from the North American Subbasin from 2000 to 2013, and estimated all annual average extractions at 99,500 AFY.[9] The GMP also reports that groundwater use declined during this period, largely as a result of the implementation of conjunctive use[10] operations and water use efficiency measures.[11] The GMP concludes that the North American Subbasin is well within its sustainable yield indicator, and because North American Subbasin is largely developed, it is not expected that new water demands would cause the basin to approach its average annual sustainable yield.[12] The South American subbasin occupies approximately 248,000 acres or 388 square miles, and is bounded on the east Sierra Nevada, on the west by the Sacramento River, on the north by the American River, and on the south by the Cosumnes and Mokelumne Rivers. These perennial rivers generally create a groundwater divide in the shallow subsurface. It is clear that there is interaction between groundwater of adjacent subbasins at greater depths.[13]

The Central Sacramento County Groundwater Management Plan (CSGMP) represents a critical step in establishing a framework for maintaining a sustainable groundwater resource for the various users overlying the basin in Sacramento County between the American and Cosumnes

6 City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan.* Jointly prepared by City of Sacramento and West Yost Associates. June 2021. Page 6-7.

7 City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan.* Jointly prepared by City of Sacramento and West Yost Associates. June 2021. Page 6-7.

8 Sacramento Groundwater Authority. 2014. *Groundwater Management Plan, Sacramento County–North Basin.* December 2014. Page 59.

9 Sacramento Groundwater Authority. 2014. *Groundwater Management Plan, Sacramento County–North Basin.* December 2014. Page 59.

10 Conjunctive use is the long-term use of surface water and groundwater resources to maximize total water availability in a region. In general, surface water supplies are used to meet water supply demands in most water years, while an aggressive groundwater recharge program uses surplus surface water to replenish groundwater with the goal of having additional groundwater in storage that can be used during dry years.

11 Sacramento Groundwater Authority. 2014. *Groundwater Management Plan, Sacramento County–North Basin.* December 2014. Page 59.

12 Sacramento Groundwater Authority. 2014. *Groundwater Management Plan, Sacramento County–North Basin.* December 2014. Page 59.

13 Department of Water Resources Bulletin 118 Updated 2/27/2006.

Rivers. CSGMP documented the estimated long-term average annual sustainable yield of the Central Basin to be 273,000 AFY, while extractions were estimated at 250,000 AFY.[14]

The management plan identifies measures to maintain pumping levels within the sustainable yield, including reduction of demand, conjunctive use with groundwater banking and exchange opportunities, and aquifer storage and recovery projects.[15]

RiverArc Project

The City is participating as a partner in the RiverArc Project, a multi-agency effort to enhance water supply diversity and reliability on a regional scale. While providing additional water supply options for its stakeholders, the RiverArc Project would increase the sustainability of regional groundwater supplies and provide additional environmental protection in the American River watershed.

The RiverArc Project would divert water from the Sacramento River to offset the water currently diverted from the American River, and would deliver that water to a new regional water treatment plant. That water would then be distributed through existing and new pipelines to local water agencies, including the City of Sacramento. For the City of Sacramento, the RiverArc Project would enable the City to divert surface water when the Hodge Flow restrictions are in place on the American River. A new water treatment plant could also be used during peak periods, which would increase water supply reliability in the North Natomas area.[16]

The drought from 2011 to 2017 reinforced the need for this project. Supportive stakeholders and water agencies are working to identify and secure project development funding that may not exist in the future. This includes Proposition 1 funding and additional funding opportunities at the federal, state, and local levels. Assuming the RiverArc was funded (confirmation could not be obtained as of the time of publication of this EIR), the RiverArc Project commenced in 2020. To date, a Planning Phase 1 report has been prepared, which lays out a conceptual plan to develop the backbone infrastructure necessary to connect the Sacramento River to the American River and incorporate the region's groundwater along the way.

Phase 1 of the RiverArc Project is expected to last from 2020 to 2030.[17] An environmental constraints analysis was completed in 2017. The analysis identifies environmental constraints that may affect project design or selection of project alternatives and will need to be considered in the later phases of project development. This report provides the baseline information that can be used to guide and support the future preparation of the project CEQA document.[18]

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14 Water Forum and Sacramento County Water Agency. 2006. *Central Sacramento County Groundwater Management Plan.* February 2006. Page ES-5.

15 Water Forum and Sacramento County Water Agency. 2006. *Central Sacramento County Groundwater Management Plan*. February 2006. Pages 3-19 and 3-20.

16 RiverArc Project. 2019. *RiverArc Project: Balancing Water Reliability*. Brochure, March 2019. Available: https://riverarcproject.com/wp-content/uploads/River-Arc-Brochure-3.2019.pdf. Accessed July 23, 2021.

17 RiverArc Project. 2019. Project Timeline. Available: http://riverarcproject.com/project-timeline/. Accessed October 23, 2019.

18 RiverArc Project. 2019. *RiverArc Project: Balancing Water Reliability*. Brochure, March 2019. Available: https://riverarcproject.com/wp-content/uploads/River-Arc-Brochure-3.2019.pdf. Accessed July 23, 2021.

Water Demand

Retail water demand in the city of Sacramento is primarily residential, but also includes commercial, institutional, and raw water for landscape irrigation. Generally, water demand decreased from 2000 to 2010 because of a combination of factors: increased conservation efforts, deployment of water-conserving fixtures, replacement of leaky pipelines, increased public awareness of California's multi-year drought and dry conditions, effects of the economic recession (commencing in 2008), and the City's meter retrofitting program. As of December 2020, 99 percent of the City's water connections were metered.[19]

As of December 2020, the City served 142,946 retail customer connections. This customer connection count does not include fire service connections. Actual retail water demand by type of use by customer sector, such as residential, commercial, institutional, and industrial) in 2020 was 100,483 AF.[20]

The City also wholesales water to other regional agencies including Sacramento International Airport, Sacramento Suburban Water District, California American Water Company, and Sacramento County Water Agency.

Table 4.11-4 provides a projection of the City's total water demands for 2025 through 2045. **Table 4.11-5** presents a summary of water demands and available supply during multiple dry years. As discussed in the City's UWMP, the available water supply figures shown in Table 4.11-4 conform to the requirements of the Water Forum Agreement, including Hodge Flow requirements (discussed previously).

TABLE 4.11-4
CITY OF SACRAMENTO MAXIMUM TOTAL WATER DEMANDS THROUGH 2045 (ACRE-FEET PER YEAR)

Water Use	2025	2030	2035	2040	2045
Potable and Raw Water	107,432	113,809	120,187	126,564	132,942
Recycled Water	1,000	1,000	1,000	1,000	1,000
Total	**108,432**	**114,809**	**121,187**	**127,564**	**133,942**

SOURCE: City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan.* Jointly prepared by City of Sacramento and West Yost Associates. June 2021. Page 4-3, Tables 4-8 and 4-9.

[19] City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan.* Jointly prepared by City of Sacramento and West Yost Associates. June 2021. Page 4-3.

[20] City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan.* Jointly prepared by City of Sacramento and West Yost Associates. June 2021. Page 4-3.

TABLE 4.11-5
COMPARISON OF CITY OF SACRAMENTO MULTIPLE-DRY-YEAR SUPPLY AND DEMAND, 2025 THROUGH 2040
(ACRE-FEET PER YEAR)

Year Scenario	Water Supply or Demand	2025	2030	2035	2040	2045
First Year, Multiple-Dry-Year Scenario	Supply Total	333,200	350,200	350,200	350,200	350,200
	Demand Total	108,432	114,809	121,187	127,564	133,942
	Excess Supply	**224,768**	**235,391**	**229,013**	**222,636**	**216,258**
Second Year, Multiple-Dry-Year Scenario	Supply Total	333,200	350,200	350,200	350,200	350,200
	Demand Total	109,707	116,085	122,462	128,840	138,397
	Excess Supply	**223,493**	**234,115**	**227,738**	**221,360**	**211,803**
Third Year, Multiple-Dry-Year Scenario	Supply Total	333,200	350,200	350,200	350,200	350,200
	Demand Total	110,983	117,360	123,738	130,115	142,853
	Excess Supply	**222,217**	**232,840**	**226,462**	**220,085**	**207,347**
Fourth Year, Multiple-Dry-Year Scenario	Supply Total	333,200	350,200	350,200	350,200	350,200
	Demand Total	112,258	118,636	125,013	131,391	147,308
	Excess Supply	**220,942**	**231,564**	**225,187**	**218,809**	**202,892**
Fifth Year, Multiple-Dry-Year Scenario	Supply Total	333,200	350,200	350,200	350,200	350,200
	Demand Total	113,534	119,911	126,289	132,666	151,764
	Excess Supply	**219,666**	**230,289**	**223,911**	**217,534**	**198,436**

SOURCE: City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan.* Jointly prepared by City of Sacramento and West Yost Associates. June 2021. Page 7-13, Table 7-11.

Water Treatment, Storage, and Distribution

Each year the City of Sacramento provides more than 45 billion gallons of water for drinking, household use, fire suppression, landscaping, and commercial and industrial uses. The distribution system is a pipeline network, in which surface water and groundwater is mixed within the system. The Department of Utilities operates and maintains the City's two water treatment plants, eight pump stations, many storage reservoirs, 28 municipal wells, thousands of hydrants, and nearly 1,800 miles of pipeline to convey water to homes and businesses throughout the city.[21] The City's service area is bounded by Elkhorn Boulevard in North Natomas on the north, Watt Avenue and U.S. Highway 50 on the east, the Sacramento River on the west, and Sheldon Road on the south.

Water Treatment

The City owns and operates two water diversion and treatment facilities: the SRWTP on the Sacramento River and the FWTP on the American River. These treatment plants operate as demands dictate; treatment is directly related to consumer demands.

[21] City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan.* Jointly prepared by City of Sacramento and West Yost Associates. June 2021. Page 3-9.

The SRWTP is located just downstream of the Sacramento River's confluence with the American River on the east side of the Sacramento river, south of Richards Boulevard and north of the Railyards redevelopment area. The SRWTP has a permitted treatment capacity of 160 mgd.[22] The City is currently evaluating further expansion of the SRWTP to increase the diversion and treatment capacity to 310 mgd.[23]

The FWTP, located on the south bank of the Lower American River, has a permitted capacity of 160 mgd, with a peak hydraulic flow of 200 mgd. As discussed previously in this section, there are restrictions on how much water can be diverted at the FWTP under certain flow conditions in the Lower American River. The City's current maximum surface water treatment capacity is 320 mgd. In 2020, City treated and delivered 100,483 AF (or 89.7 mgd), of which 20,429 AF (or 18.2 mgd) was groundwater.

Water Storage

Stored water is used to meet water demands during periods when peak-hour demand exceeds maximum daily supply rates. These high-demand periods usually occur for four to six hours during hot summer days, and for potentially longer periods during large fire events.

The City currently has 17 storage facilities. Twelve storage reservoirs are located throughout the city, with a combined capacity of 49 million gallons. The City also has five finished water storage facilities at its water treatment plants: two at the FWTP and three at SRWTP. The clear well reservoirs[24] at the water treatment plants have a combined capacity of approximately 45 million gallons. Total treated water in storage is 89 million gallons.[25]

Water Transmission

The City conveys water using its system of larger transmission pipelines, which are at least 16 inches in diameter, and smaller distribution mains, which range from 4 to12 inches in diameter. Transmission pipelines are used solely to convey large volumes of water; they are generally not tapped for water or fire services. In total, the City manages approximately 1,800 miles of water pipelines.[26]

[22] City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan.* Jointly prepared by City of Sacramento and West Yost Associates. June 2021. Page 3-8.

[23] City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan.* Jointly prepared by City of Sacramento and West Yost Associates. June 2021. Page 3-8.

[24] A reservoir for the storage of filtered water of sufficient capacity to prevent the need to vary the filtration rate with variations in demand. Clear wells also provide chlorine contact time for disinfection purposes prior to transmission and distribution.

[25] City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan.* Jointly prepared by City of Sacramento and West Yost Associates. June 2021. Page 3-9.

[26] City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan.* Jointly prepared by City of Sacramento and West Yost Associates. June 2021. Page 3-9.

Regulatory Setting

Federal

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (USEPA) established primary drinking water standards in Clean Water Act (CWA) Section 304; states are required to ensure that potable water for the public meets these standards. Standards for 81 individual constituents have been established under the Safe Drinking Water Act (SDWA), as amended in 1986. USEPA may add additional constituents in the future.

Safe Drinking Water Act

USEPA administers the SDWA, the primary federal law that regulates the quality of drinking water and establishes standards to protect public health and safety. The California Department of Public Health (CDPH) implements the SDWA and oversees the quality of public water systems statewide. CDPH establishes legal drinking water standards for contaminants that could threaten public health.

State

Drinking Water Quality

As part of its efforts to implement the SDWA, CDPH inspects and provides regulatory oversight for public water systems in California. In the Sacramento area, the Central Valley Regional Water Quality Control Board also has responsibility for protecting the beneficial uses of the state's waters, including groundwater; these beneficial uses include municipal drinking water supply, as well as various other uses.

Public water system operators are required to monitor their drinking water sources regularly for microbiological, chemical, and radiological contaminants to show that drinking water supplies meet the regulatory requirements listed in California Code of Regulations (CCR) Title 22 as primary maximum contaminant levels. Primary standards are developed to protect public health and are legally enforceable. Among these contaminants are approximately 80 specific inorganic and organic contaminants and six radiological contaminants that reflect the natural environment, as well as human activities. Examples of potential primary inorganic contaminants are aluminum and arsenic, while radiological contaminants can include uranium and radium.

Public water system operators are also required to monitor for a number of other contaminants and characteristics that deal with the aesthetic properties of drinking water. These are known as secondary maximum contaminant levels. Secondary standards are generally associated with qualities such as taste, odor, and appearance, but these are generally non-enforceable guidelines. However, in California, secondary standards are legally enforceable for all new drinking water systems and new sources developed by existing public water suppliers. The public water system operators are also required to analyze samples for unregulated contaminants, and to report other contaminants that may be detected during sampling.

Urban Water Management Planning Act

California Water Code Section 10610 et seq. requires all public water systems providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 AFY, to prepare an UWMP. UWMPs represent key water supply planning documents for municipalities and water purveyors in California, and often form the basis of water supply assessments (WSAs) (see below) prepared for individual projects. UWMPs must be updated at least every five years on or before December 31, in years ending in five and zero.

Water Supply Assessment

California Public Resources Code Section 21151.9 requires that a WSA be prepared for a proposed plan, as defined in the statute, to ensure that long-term water supplies are sufficient to meet the project's demands in normal, single dry, and multiple dry years for a period of 20 years. Preparation of a WSA is required if a proposed action meets the statutory definition of a "project," which includes at least one of the following (Water Code Section 20912(a)):

- A proposed residential development of more than 500 dwelling units (DU).
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A mixed-use project that includes one or more of the projects specified in the above list items.

Completion of a WSA requires the collection of proposed water supply data and information relevant to the project in question, an evaluation of existing/current use, a projection of anticipated demand sufficient to serve the project for a period of at least 20 years, the delineation of proposed water supply sources, and an evaluation of water supply sufficiency under single-year and multiple-year drought conditions.

Written Verification of Water Supply

Government Code Section 66473.7(a)(1) requires an affirmative written verification of sufficient water supply. The written verification is designed as a "fail-safe" mechanism to ensure that collaboration on finding the needed water supplies to serve a new large subdivision occurs early in the planning process. This verification must also include documentation of historical water deliveries for the previous 20 years, as well as a description of reasonably foreseeable impacts of the proposed subdivision on the availability of water resources of the region. Government Code Section 66473.7(b)(1) states:

> The legislative body of a city or county or the advisory agency, to the extent that it is authorized by local ordinance to approve, conditionally approve, or disapprove the tentative map, shall include as a condition in any tentative map that includes a subdivision a requirement that a sufficient water supply shall be

> available. Proof of the availability of a sufficient water supply shall be requested by the subdivision applicant or local agency, at the discretion of the local agency, and shall be based on written verification from the applicable public water system within 90 days of a request.

In other words, as a result of the information contained in the written verification, the city or county may attach conditions to assure that an adequate water supply is available to serve the proposed plan as part of the tentative map approval process. Pursuant to Government Code Section 66473.7(i), additional water supply verification is not required for:

> Any residential project proposed for a site that is within an urbanized area and has been previously developed for urban uses, or where the immediate contiguous properties surrounding the residential project site are, or previously have been, developed for urban uses, or housing projects that are exclusively for very low and low income households.

California Water Conservation Act

The California Water Conservation Act, enacted in November 2009, required each urban water supplier to select one of four water conservation targets contained in California Water Code Section 10608.20, with the statewide goal of achieving a 20 percent reduction in urban per-capita water use by 2020.

Sustainable Groundwater Management Act of 2014

The Sustainable Groundwater Management Act of 2014 (SGMA) became law on January 1, 2015, and applies to all groundwater basins in the state (Water Code Section 10720.3). (The SGMA comprises three separate bills: Senate Bill [SB] 1168, SB 1319, and Assembly Bill [AB] 1739. All three were signed into law by Governor Brown on September 16, 2014.) By enacting the SGMA, the Legislature intended to provide local agencies with the authority and the technical and financial assistance necessary to sustainably manage groundwater within their jurisdictions (Water Code Section 10720.1).

Pursuant to the SGMA, any local agency that has water supply, water management, or land use responsibilities for a groundwater basin may elect to be a "groundwater sustainability agency" for that basin (Water Code Section 10723). Local agencies had until January 1, 2017, to elect to become or form a groundwater sustainability agency (GSA). In the event a basin is not within the management area of a GSA, the county within which the basin is located will be presumed to be the GSA for the basin. However, the county may decline to serve in this capacity (Water Code Section 19724).

In October 2015, the SGA Board submitted a notification of its intention to become the GSA for the Sacramento County portion of the North American Subbasin.[27] In late January 2016, following a 90-day comment period, SGA was designated as the exclusive GSA for its management area. SGA coordinated with representatives throughout the North American Basin to ensure that effective GSAs were formed covering the entire subbasin by June 30, 2017. The

[27] California Department of Water Resources. 2016. SGMA Portal: Table of GSA Formation Notifications Received by DWR. Available: https://sgma.water.ca.gov/portal/#gsa. Accessed March 31, 2016.

Groundwater Sustainability Plan (GSP) Emergency Regulations for evaluating GSPs, the implementation of GSPs, and coordination agreements were adopted by the California Department of Water Resources and approved by the California Water Commission on May 18, 2016.

Groundwater authorities have additional powers under the SGMA to manage groundwater within the basin, including, for example, the power to: conduct investigations of the basin, require registration of groundwater extraction facilities and metering of groundwater extractions, regulate groundwater extractions from individual groundwater wells or wells generally, and assess fees on groundwater extractions (see, generally, Water Code Section 10725 et seq.). The SGMA also provides local agencies with additional tools and resources to ensure that the state's groundwater basins are sustainably managed.

SGMA also requires the California Department of Water Resources to categorize each groundwater basin in the state as high, medium, low, or very low priority (Water Code Sections 10720.7 and 10722.4). The North American Subbasin has been categorized as high priority.[28] All basins designated as high- or medium-priority basins must be managed by a GSA under a GSP that complies with Water Code Section 10727 et seq.

California Green Building Standards Code

The California Green Building Standards Code (CALGreen) represents Part 11 of the California Building Standards Code under CCR Title 24. CALGreen is intended to promote sustainable construction practices by reducing negative impacts associated with construction, applying design and methodology to encourage positive environmental impacts. "The code is the state's first green building code, and was adopted to address five divisions of building construction"[29]:

- Planning and design
- Energy efficiency
- Water efficiency and conservation
- Material conservation and resource efficiency
- Environmental quality

CALGreen applies to "the planning, design, operation, construction, use, and occupancy of every newly-constructed building or structure on a statewide basis unless otherwise indicated."[30] Compliance with CALGreen is required by the city of Sacramento.

[28] California Department of Water Resources. 2019. Basin Prioritization: CASGEM Groundwater Basin Prioritization Results. Available: https://water.ca.gov/Programs/Groundwater-Management/Basin-Prioritization. Accessed December 22, 2019.

[29] California Department of Housing and Community Development. 2019. California Green Building Standards Code—CALGreen. Available: www.hcd.ca.gov/building-standards/calgreen/index.shtml. Accessed October 19, 2021.

[30] California Department of Housing and Community Development. 2019. California Green Building Standards Code—CALGreen. Available: www.hcd.ca.gov/building-standards/calgreen/index.shtml. Accessed October 19, 2021.

Local

City of Sacramento SB 610/SB 221 Water Supply Assessment

Every project must fill out and submit the SB 610/SB 221 Water Supply Assessment and Certification Form. This form will confirm or deny the availability of water supply, per the latest UWMP, before the project can proceed. Once water supply has been validated for the project, a water study is to be completed for the project design. This study must be stamped by a licensed engineer and submitted to the City's Department of Utilities for review and approval. The study must be based on a water system design that meets the City's design standards for a public water system as it relates to the surrounding area as well as the project, including but not limited to properly sizing pipe to meet both water quality and fire flow needs for the project, looping systems for redundancy and improved water supply, and placing hydrants.

Sacramento 2035 General Plan

The following goal and policies from the 2035 General Plan's Utilities Element related to water supply are relevant to the proposed project, including the proposed CNU Medical Center.

> **Goal U 2.1: High-Quality and Reliable Water Supply.** Provide water supply facilities to meet future growth within the city's Place of Use and assure a high-quality and reliable supply of water to existing and future residents.
>
> > ***Policy U 2.1.3: Water Treatment Capacity and Infrastructure.*** The City shall plan, secure funding for, and procure sufficient water treatment capacity and infrastructure to meet projected water demands.
> >
> > ***Policy U 2.1.4: Priority for Water Infrastructure.*** The City shall give high priority in capital improvement programming to funding rehabilitation or replacement of critical infrastructure that has reached the end of its useful life.
> >
> > ***Policy U 2.1.9: New Development.*** The City shall ensure that water supply capacity is in place prior to granting building permits for new development.
> >
> > ***Policy U 2.1.10: Water Conservation Standards.*** The City shall achieve a 20 percent reduction in per-capita water use by 2020 consistent with the State's 20x2020 Water Conservation Plan.
> >
> > ***Policy U 2.1.18: Future Water Supply.*** The City shall continue to explore options for diverting, treating, and conveying surface water. Such options could include: construction of new water treatment plant on the Sacramento River in Natomas; construction of a raw water pipeline to pump flow back from the Sacramento River to a City Water treatment plant for treatment; and/or the expansion of the Sacramento River Water Treatment Plant.

The proposed project, including the proposed CNU Medical Center, would be consistent with this General Plan goals and these policies. Consistent with these policies, project utilities would be appropriately sized and installed within the site to maintain adequate service in light of the impact analysis provided below; the project applicant would pay a fair share of the cost for any needed upgrades, as warranted. With respect to Goal U 2.1 and Policy U 2.1.9, a water supply assessment was prepared for the proposed project (see Appendix I), and the City expects to be able to serve the proposed project, including the proposed CNU Medical Center, in light of all other current and planned projects.

Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, impacts on water facilities and supply may be considered significant if implementation of the proposed project would:

- Require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects; or
- Result in the City not having sufficient water supplies available to serve the project during normal, dry, and multiple dry years.

Methodology and Assumptions

The following impact analysis evaluates the potential for implementation of the proposed project, including the proposed CNU Medical Center, to result in changes to existing infrastructure and supply relating to water availability.

Water Supply

Water demand during the project's construction period was calculated assuming that dust suppression, compaction, and other construction-period water requirements would amount to 0.05 AF per month per acre, on average, consistent with typical construction water consumption for urban projects in the region. The construction-water analysis conservatively assumes that all construction in the project area would occur at the same time. In actuality, construction would be dispersed in time as individual components are implemented. However, assuming that all construction-related water demand would occur at once provides an extremely conservative upper limit to the anticipated volume of water that could be consumed annually during project construction. Actual levels would be less than this maximum.

The adoption of the Water Conservation Act combined with CALGreen would require reductions in overall water usage through stricter limits on indoor and outdoor use. These requirements mandating water conservation further justify the use of the reduced water rates in estimating water demands from future development in the project area.

The City's Water Study Design Manual contains the Water System Design Criteria, a summary of recommended potable-water system performance and operational criteria. The Water System Design Criteria provides a table of gross unit water use factors for various land uses. The demands are divided into two categories of water use factors: residential and nonresidential. The residential factors are based on acre-feet per year per dwelling unit (AFY/DU) and the nonresidential factors are based on AFY per employee. For the proposed project, all dwelling units are anticipated to be the Urban Center–Low category, which has a residential factor of 0.15 AFY/DU. Nonresidential water use factors are distributed to each of the CNU Medical Center facilities based on type of facility and services provided or performed at this facility. Based on the Water System Design Criteria the water use factors for the CNU Medical Center are: 0.14 AFY per employee (Industrial), 0.09 AFY per employee (Commercial) or 0.04 AFY per employee (children in day care). For water supply planning purposes, the WSA divided the

number of employees that could be designated to specific medical or university services and used the Water System Design Criteria to calculate the projected water demand for the proposed project. The City's Department of Utilities confirmed that sufficient water supplies would be available for the project during normal, single dry, and multiple dry years over a 20-year period.

The analysis for water supply centers on a comparison of existing uses and demand to future water demand with implementation of the proposed project. Water demand was compared to water supplies available to the City, in accordance with City procedures, and a determination made regarding the sufficiency of supply for the proposed project using the WSA (see Appendix I). To calculate water demand, the WSA compares the existing number of dwelling units and employees in each type of land zoning with the projected number of dwelling units and employees with implementation of the proposed project. The proposed project, including the proposed CNU Medical Center, would generate a water demand of approximately 1.050.6 AFY (**Table 4.11-6**).

TABLE 4.11-6
WATER DEMAND FOR THE PROPOSED PROJECT

	Quantity	Residential Water Use Factor	Nonresidential Water Use Factor	Water Demand (AFY)
Innovation Park PUD (183.7 acres)				
Dwelling Units	2,471	0.15 AFY/DU	N/A	371.3
CNU Medical Center (35.6 acres)				
Medical Zone Employees (Hospital, Central Plant, Medical, Laboratory/Pharmaceutical Bldg)	6,170	N/A	0.14 AFY/Employee	329.0
University Zone Employees (Bldgs 1, 2, 3 with Retail, Sport Facility, Senior Living)	1,230	N/A	0.14 AFY/Employee	253.4
Faculty/Student and Active Living Housing Units	600	0.15 AFY/DU	N/A	90.0
Day Care Facility (children)	175	N/A	0.04 AFY/Employee	7.0
CNU Medical Center subtotal				***679.4***
Total				**1,050.6**

NOTES: AFY = acre-feet per year; CNU Medical Center = California Northstate University Medical Center; DU = dwelling units; N/A = not applicable; PUD = Planned Unit Development

SOURCE: Environmental Science Associates. 2021. City of Sacramento Water Study Design Manual and SB 610/SB 221 Water Supply Assessment and Certification Form, Innovation Park Planned Unit Development and CNU Medical Center. September 2021.

Infrastructure

Existing water mains ranging from 12 to 24 inches are available in the perimeter roads surrounding the project area, one block from Sports Parkway. This system is served by a 36-inch transmission main that follows the East Drainage Channel, located approximately 1,800 feet east of the project area. The project area is currently served by a 10-inch service main from East Commerce Way through the Sleep Train Arena Main Entrance, a 10-inch water distribution main from Arena Boulevard through the South Entrance, and a 12-inch service main from Truxel Road through the East Entrance. The water systems infrastructure study examines whether the existing

points of connection at East Commerce Way and Arena Boulevard would need to be upsized to accommodate the proposed project or whether there would be enough capacity to serve the area.

Impacts and Mitigation Measures

Impact 4.11-1: The City would have the potential to have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

Innovation Park PUD

The project site, including the existing Sleep Train Arena, practice facility, and surrounding landscaped parking lots have been largely vacant since 2015. Sporadic use of the project site and facilities has occurred since then; however, for purposes of conducting a conservative analysis, the existing water demand for the project site is assumed be zero. Implementation of the proposed project (excluding CNU Medical Center) would increase water demand from zero under existing conditions to an estimated 371.25 AFY (Table 4.11-6).

Development under the proposed project would be required to comply with water conservation, reuse, and efficiency standards under CALGreen. To this end, development would use low-flow/ high-efficiency plumbing fixtures, and landscaping in the project area would be designed and maintained for low water use and appropriate site conditions and methods for reducing water demand. Compliance with these measures may reduce the project's water demand to less than 371.3 AFY.

The increase in water demand under the proposed project would represent an increase of approximately 0.38 percent relative to the city of Sacramento's total 2020 water demand of 100,483 AF.[31] As shown in Table 4.11-2 and discussed above, the City has surface water rights to divert up to 326,800 AFY from the American and Sacramento Rivers and had a groundwater pumping capacity of 20,429 AFY in 2020. Thus, the total available water supply for the city of Sacramento in 2020 was more than 346,000 AF.

The City's surplus water supply is projected to range from 224,768 AFY in 2025 to 216,258 AFY in 2045 during a single dry year or the first year of a multiple-dry-year drought (see Table 4.11-5). The proposed project is anticipated to be completed before 2040, when the City's surplus water supply is projected to be 198,436 AFY in the fifth year of multi-year drought. Therefore, the increase in water demand resulting from development under the proposed project would be approximately 0.18 percent of the City's surplus water supply in 2045. The City of Sacramento would have adequate planned water supply to serve the proposed project for normal, single dry, and multiple dry years, as confirmed by the WSA prepared for the project. Therefore, the impact of the proposed project on water supply resources would be **less than significant**.

CNU Medical Center

As described above, at the time of preparation of this EIR, the Sleep Train Arena building and former Sacramento Kings practice facility were vacant and not in use; thus, these facilities do not

[31] City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan.* Jointly prepared by City of Sacramento and West Yost Associates. June 2021. Page 2-1.

generate demand for potable water. Implementation of the proposed CNU Medical Center would increase water demand from zero under existing conditions to an estimated 679.4 AFY (Table 4.11-6).

Like the proposed project as a whole, the proposed CNU Medical Center would be required to comply with water conservation, reuse, and efficiency standards under CALGreen. As described for the proposed project above under *Innovation Park PUD,* the CNU Medical Center would use low-flow/high-efficiency plumbing fixtures, and landscaping on the medical center site would be designed and maintained for low water use and appropriate site conditions and methods for reducing water demand. Compliance with these measures may reduce the CNU Medical Center's water demand to less than 679.4 AFY; however, for conservative water supply planning purposes, this section uses this highest estimate of water demand.

The increase in water demand under the proposed CNU Medical Center would represent an increase of approximately 0.68 percent relative to the city of Sacramento's total 2020 water demand of 100,483 AF.[32] As shown in Table 4.11-2 and discussed above, the City has surface water rights to divert up to 326,800 AFY from the American and Sacramento Rivers and in 2020, pumped of 20,429 AFY groundwater. Thus, the total available water supply for the city of Sacramento in 2020 was more than 346,000 AF.

As described previously, the City's surplus water supply is projected to range from 224,768 AFY in 2025 to 216,258 AFY in 2045 during a single dry year or the first year of a multiple-dry-year drought (see Table 4.11-5). The proposed CNU Medical Center is anticipated to be completed before 2040, when the City's surplus water supply is projected to be 198,436 AFY in the fifth year of a multi-year drought. Therefore, the increase in water demand resulting from development under the proposed project would be approximately 0.34 percent of the City's surplus water supply in 2045.

The City of Sacramento would have adequate planned water supply to serve the proposed CNU Medical Center for normal, single dry, and multiple dry years, as confirmed by the WSA prepared for the project. Therefore, the impact of the proposed CNU Medical Center on water supply resources would be **less than significant**.

Mitigation Measure

None required.

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[32] City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan.* Jointly prepared by City of Sacramento and West Yost Associates. June 2021. Page 2-1.

Impact 4.11-2: Implementation of the proposed project would have the potential to require or result in the construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.

Innovation Park PUD

A backbone water distribution system would be constructed in the project area to serve future development. Preliminary modeling indicates that the system would consist of 12-inch mains that would follow the street system throughout the project area, beginning with a loop in Sports Parkway. A detailed water study to be completed by the applicant before construction would determine the exact size of the mains composing the backbone water distribution system. The sizing of this system would be based on City standards that, at maximum-day peak-hour demand, require that the operating or static pressure at all service connections be at least 30 pounds per square inch (psi).[33] According to preliminary modeling[34] conducted for the system, water pressure in the project area would range from 43 to 47 psi, which is consistent with City standards and pressure in the water infrastructure surrounding the site. The environmental impacts of construction of the backbone water distribution system in the project area are analyzed in other sections of this EIR, including Section 4.2, *Air Quality*; Section 4.3, *Biological Resources*; Section 4.4, *Cultural and Tribal Cultural Resources*; Section 4.8, *Noise and Vibration*; and Section 4.10, *Transportation and Circulation*.

Where feasible, existing water infrastructure serving the Sleep Train Arena building would be connected to the new service loop for the proposed project. However, the 10-inch service water mains in the Sleep Train Arena Main Entrance and the South Entrance may need to be upgraded depending on further study. In addition, preliminary modeling indicates that a new 12-inch service main from Del Paso Road through a new entrance along Five Star Way would be required to serve development planned under the proposed project. As mentioned previously, a detailed water study to be completed by the applicant would determine the exact size of this improvement. Given the urbanized nature of the adjacent area, it is unlikely that construction of these required off-site improvements would result in significant environmental impacts, as the improvements would occur within an existing street or right-of-way that has been previously disturbed. For these reasons, impacts of the proposed project related to the installation of new water service mains would be **less than significant**.

CNU Medical Center

There would be no unique or distinct differences or additional impacts associated with the proposed CNU Medical Center, compared to those associated with implementation of the proposed project as discussed above. For these reasons, impacts of the proposed CNU Medical Center related to the installation of new water service mains would be **less than significant**.

Mitigation Measure

None required.

[33] City of Sacramento Department of Utilities. 2018. *Department of Utilities Design and Procedure Manual,* Section 13: Water Systems. July 24, 2018. Page 13-7.

[34] Stantec. 2021. Innovation Park, City of Sacramento, California, Water Exhibit. September 3, 2021.

Cumulative Impacts

The following discussion provides an analysis of cumulative impacts that could occur as a result of the proposed project. The cumulative context for water supply, treatment, and conveyance includes the water service area for the City of Sacramento, including reasonably foreseeable increases in water demand as identified in the City's 2035 General Plan Master EIR and its 2020 UWMP, as well as the regionally important RiverArc project.

Impact 4.11-3: Under cumulative conditions, the City would have the potential to have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

Innovation Park PUD

The cumulative context for this impact includes the water service area for the City of Sacramento, including reasonably foreseeable increases in water demand as identified in the City's 2015 UWMP. As discussed previously, the 2020 UWMP does not identify specific development projects that were included in the City's water demand calculations. Instead, the UWMP proposes various categories of development within the City's service area for water supply. The UWMP considers the water supply needed for future development as planned in the 2035 General Plan.

The current General Plan land use designation for the project area is Urban Center–High, and the 2020 UMWP anticipated development on the site based on this land use designation. The proposed project is seeking a General Plan amendment to redesignate the project area as Urban Center–Low, which would allow less development on-site than under the current designation. Because less development would occur in the project area than was planned for in the 2035 General Plan, the 2020 UWMP has accounted for the amount of development proposed by the project.

As discussed in the 2020 UWMP and as noted previously in this section, Hodge Flow conditions can result in restrictions on diversions at the FWTP. The City has sufficient water production capacity to meet anticipated demands through the year 2045, under anticipated Hodge Flow restrictions.[35] However, as mentioned previously, the City is currently evaluating further expansion of the SRWTP to increase the diversion and treatment capacity to 310 mgd,[36] and environmental review is commencing in 2021.

Based on this information and implementation of upgrades to the SRWTP, the City can serve anticipated demands in all years, even under Hodge Flow conditions at the FWTP. In addition, the City can increase its groundwater pumping during dry years or Hodge Flow conditions to increase local supplies and when surface water supplies are constrained in the Lower American River and before the upgrades are implemented at the SRWTP. Furthermore, even with the SRWTP, the City can increase groundwater pumping to improve local supply reliability.

35 City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan.* Jointly prepared by City of Sacramento and West Yost Associates. June 2021. Page 203.

36 City of Sacramento Department of Utilities. 2021. *City of Sacramento 2020 Draft Urban Water Management Plan.* Jointly prepared by City of Sacramento and West Yost Associates. June 2021. Page 3-8.

The Master EIR prepared for the 2035 General Plan, certified in 2015, similarly concluded that the City would need additional diversion and treatment capacity to meet peak demand under Hodge Flow conditions.[37] The Master EIR referenced General Plan policies calling for sound planning for new development and reducing peak demand.[38] The Master EIR also calls for the City to construct a new water treatment plant on the Sacramento River in Natomas, north of the City's present SRWTP, near Sacramento International Airport, commonly called the Natomas Water Treatment Plant. The City's existing and planned water treatment system would be sufficient to continue to provide the city of Sacramento, including the project area with adequate water supplies. Therefore, this cumulative impact would be **less than significant**.

CNU Medical Center

There would be no unique or distinct differences or additional impacts associated with implementation of the proposed CNU Medical Center, compared to those associated with implementation of the proposed project as discussed above. Therefore, the City's existing and planned water treatment system would be sufficient to continue to provide the city of Sacramento, including the project area with adequate water supplies to meet the needs of the proposed CNU Medical Center. This cumulative impact would be **less than significant**.

Mitigation Measure

None required.

Impact 4.11-4: Implementation of the proposed project, in combination with other development, would have the potential to require or result in the construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects.

Innovation Park PUD

North Natomas is served by a system of transmission and distribution lines. Transmission pipelines are expressly used to transport large volumes of water, while distribution mains generally provide access for water demand and fire flow. It is possible that upgrades to existing water conveyance infrastructure in the area may be required to serve new development in North Natomas, the construction of which could cause significant environmental effects.

As discussed above, a backbone water distribution system would be constructed in the project area to serve future development. The environmental impacts of construction in the project area are analyzed in other sections of this EIR. In addition, although the existing water supply system serving the project area is generally adequate, upgrades to the 10-inch lines that serve the area may be required and construction of a new line from Del Paso Road would be required. However, given the urbanized nature of the adjacent area, it is unlikely that these off-site improvements would result in significant environmental impacts, as the improvements would occur within an existing street or right-of-way that has been previously disturbed. Therefore, the contribution of

[37] City of Sacramento. 2015. *2035 General Plan Master EIR.* Certified March 3, 2015. Page 4.11-3.
[38] City of Sacramento. 2015. *2035 General Plan Master EIR.* Certified March 3, 2015. Page 4.11-3.

the proposed project would not be cumulatively considerable, and this cumulative impact would be **less than significant**.

CNU Medical Center

There would be no unique or distinct differences or additional impacts associated with the proposed CNU Medical Center, compared to those associated with implementation of the proposed project as discussed above. This impact would be similar or identical to that of the proposed project and would not be cumulatively considerable, and this cumulative impact would be **less than significant**.

Mitigation Measure

None required.

4.11.2 Wastewater

This section of the EIR describes existing public utilities available in the project area, and evaluates the effects of proposed development on those services. The services evaluated in this section are wastewater and drainage. Site characteristics such as regional and local wastewater and drainage are described below.

Environmental Setting

Wastewater is collected from the project area and conveyed through Sacramento Area Sewer District (SASD), flows into the interceptor system and delivered to the Sacramento Regional County Sanitation District (Regional San) Sacramento Regional Wastewater Treatment Plant (SRWWTP).[39]

The primary service lateral from the Sleep Train Arena building to the public SASD system is a 24-inch line exiting the project area to the west through the Sleep Train Arena Main Entrance. The lateral is approximately 20 inches deep and has a capacity of 6.54 mgd. The 24-inch line connects directly to a 48-inch transmission main in East Commerce Way and flows at approximately 0.21 mgd.

Sacramento Regional Wastewater Treatment Plant

The SRWWTP is located in Elk Grove and is owned and managed by Regional San. Regional San provides regional wastewater conveyance and treatment services to commercial, residential, and industrial end users in the city of Sacramento, and in unincorporated Sacramento County and the cities of Citrus Heights, Elk Grove, Folsom, Rancho Cordova, and West Sacramento, as well as the communities of Courtland and Walnut Grove. As of 2018, Regional San had approximately 111 miles of gravity interceptors ranging from 36 inches to 144 inches in diameter and 54 miles of

[39] Sacramento Area Sewer District. 2019. Our Sewage Collection System. Available: https://www.sacsewer.com/post/our-sewage-collection-system. Accessed November 6, 2019.

force mains ranging from 16 inches to 66 inches in diameter.[40] The existing SRWWTP currently maintains a maximum average dry-weather treatment capacity of 181 mgd.[41] As of 2020, actual average dry-weather flow (ADWF) for the facility was approximately 135 mgd, substantially lower than the facility's capacity.[42] Treated effluent is discharged into the Sacramento River.

In 2010, the Central Valley Water Quality Control Board released a draft targeted permit for the SRWWTP that targeted ammonia reductions from the existing SRWWTP facility. The SRWWTP currently maintains secondary-level treatment processes. To meet these target requirements and other anticipated future discharge requirements, Regional San is upgrading the SRWWTP. The new system, referred to as the EchoWater Project, is currently underway and is slated to be operational beginning in 2021 and fully implemented by 2023. At completion, the SRWWTP will produce effluent with improved water quality for discharge to the Sacramento River, and will increase recycled water use and reuse through the deployment of new treatment technologies and facilities. However, the upgrades associated with the Echo Water Project will only increase the quality of effluent discharged into the Sacramento River; the upgrades will not result in a net increase in the permitted capacity of the SRWWTP.

Sacramento Area Sewer District

SASD is a sewer utility that owns and operates 4,400 miles of lateral and main wastewater pipelines and is responsible for the day-to-day operations and maintenance of those pipelines and 106 pump stations. SASD provides service to 1.2 million people in the Sacramento region, including the unincorporated areas of Sacramento County; the cities of Citrus Heights, Rancho Cordova, and Elk Grove; portions of the cities of Folsom and Sacramento; and the communities of Courtland and Walnut Grove. In these areas, SASD provides sewer collection service to residential, commercial, and industrial customers. Once wastewater is collected by SASD, it flows into the Regional San interceptor system from the local collection agency's smaller pipes, where it is conveyed south to Regional San's SRWWTP.[43]

Regulatory Setting

Federal

Clean Water Act

Code of Federal Regulations Title 40, Part 503, as well as CCR Title 23 and standards established by the Regional Water Quality Control Boards (RWQCBs), regulate the disposal of biosolids. The main purpose of these regulatory measures is to ensure appropriate limits for effluent discharge to surface waters. These limits affect the sizing and treatment capacities of wastewater utilities that serve communities in California. CWA Sections 401 and 402 contain general requirements regarding National Pollutant Discharge Elimination System (NPDES) permits.

40 Sacramento Regional County Sanitation District. 2019. *Sewer System Management Plan (SSMP) for Sacramento Regional County Sanitation District Interceptor System*. Page I.

41 Carollo. 2008. *2020 Master Plan Final Executive Summary Sacramento Regional Wastewater Treatment Plant.* Page 7.

42 Sacramento Regional County Sanitation District. 2020. *2020 State of District.* Page 2.

43 Sacramento Area Sewer District. 2019. Our Sewage Collection System. Available: https://www.sacsewer.com/post/our-sewage-collection-system. Accessed November 6, 2019.

CWA Section 307 describes the factors that USEPA must consider in setting effluent limits for priority pollutants.

State

National Pollutant Discharge Elimination System

As authorized by the CWA, the NPDES is a federal program that has been delegated to the State of California for implementation through the SWRCB and the nine RWQCBs, collectively called the Regional Water Boards. Each NPDES permit for point-source discharges defines threshold limits of allowable concentrations of pollutants contained in discharges. Regional San treats wastewater at the SRWWTP and then discharges the treated effluent into the Sacramento River near the town of Freeport. These discharges are subject to the NPDES permit program, which protects the beneficial uses of surface waters that could be used for drinking, fishing, swimming, agriculture, and other activities. NPDES permit number CA0077682 for the SRWWTP was issued in 2016.

Local

Sacramento 2035 General Plan

The following goals and policies from the 2035 General Plan's Utilities Element related to wastewater are relevant to the proposed project, including the proposed CNU Medical Center.

Goal U 1.1: High-Quality Infrastructure and Services. Provide and maintain efficient, high quality public infrastructure facilities and services throughout the city.

Policy U 1.1.1: Provision of Adequate Utilities. The City shall continue to provide and maintain adequate water, wastewater, and stormwater drainage utility services utility services to areas in the city currently receiving these services from the City, and shall provide and maintain adequate water, wastewater, and stormwater drainage utility services to areas in the city that do not currently receive these City services upon funding and construction of necessary infrastructure.

Policy U 1.1.2: Citywide Level of Service Standards. The City shall establish and maintain service standards [Levels of Service (LOS)] for water, wastewater, stormwater drainage, and solid waste services.

Policy U 1.1.5: Growth and Level of Service. The City shall require new development to provide adequate facilities or pay its fair share of the cost for facilities needed to provide services to accommodate growth without adversely impacting current service levels.

Policy U 1.1.8: Joint-Use Facilities. The City shall support the development of joint-use water, drainage, and other utility facilities as appropriate in conjunction with schools, parks, golf courses, and other suitable uses to achieve economy and efficiency in the provision of services and facilities.

Goal U 3.1: Adequate and Reliable Sewer and Wastewater Facilities. Provide adequate and reliable sewer and wastewater facilities that collect, treat, and safely dispose of wastewater.

Policy U 3.1.1: Sufficient Service. The City shall provide sufficient wastewater conveyance, storage, and pumping capacity for peak sanitary sewer flows and infiltration.

> ***Policy U 3.1.2: New Developing Areas.*** The City shall ensure that public facilities and infrastructure are designed to meet ultimate capacity needs. For facilities subject to incremental upsizing, initial design shall include adequate land area and any other elements not easily expanded in the future. Infrastructure and facility planning should discourage over-sizing of infrastructure that could contribute to growth beyond what is anticipated in the General Plan.

The proposed project, including the proposed CNU Medical Center, would be consistent with these General Plan goals and policies. Consistent with these policies, project utilities would be appropriately sized and installed within the project area to maintain adequate service in light of the impact analysis provided below; the applicant would pay a fair share of the cost for any needed upgrades, as warranted.

Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, impacts on wastewater facilities and treatment capacity may be considered significant if implementation of the proposed project would:

- Result in a determination by the wastewater treatment provider, which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments; or
- Require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects.

Methodology and Assumptions

The following impact analysis evaluates the potential for the proposed project, including the proposed CNU Medical Center, to result in changes to existing wastewater infrastructure capacity. Anticipated wastewater generation was estimated based on the City's wastewater generation factors, derived from the SASD Standards and Specifications. Wastewater generation was calculated by applying generation factors to the estimated amounts of different use types anticipated to be developed in the project area.

Wastewater Generation

The City of Sacramento Design Standards for wastewater generation rates contain average daily flow rates for residential and nonresidential uses. The existing standard for sewer generation is 310 gallons per day (gpd) per equivalent single-family dwelling (ESD).[44]

A factor of 1 ESD per residential unit was selected based on the nature of the proposed project's low-density urban infill residential. This factor, when multiplied by 310 gpd per ESD, yields a sewer generation rate of 310 gpd per residential unit. For the nonresidential land uses, the City's standards recommend 6 ESDs per gross acre for general office/commercial buildings.

[44] City of Sacramento Department of Utilities. 2018. *Department of Utilities Design and Procedure Manual,* Section 9: Sewer Collection Systems. July 24, 2018. Page 9-17.

Table 4.11-7 presents the amount of wastewater that development under the proposed project would generate. The proposed project's development of a maximum of 3,071 residential units in the project area would increase the ADWF by 0.953 mgd (3,071 dwelling units x 1 ESD x 310 gpd/ESD). The proposed development of 1.6 million square feet of commercial/office/retail space on 35.0 acres of developable space would increase the ADWF by 0.065 mgd (310 gpd/ESD x 6 ESD/acre x 35.0 acres), resulting in a total increase in the ADWF of 1.018 mgd. Assuming a peaking factor of 2.5, wastewater generation could be as high as 2.38 mgd for residential and 0.163 mgd for nonresidential. Thus the combined peak wastewater generation is estimated to be 2.54 mgd ADWF (1.018 mgd x 2.5).

TABLE 4.11-7
WASTEWATER GENERATION TABLE FOR THE PROPOSED PROJECT

Development	Amount	ESD Factor	Sewer Generation	ADWF (mgd)	Peak ADWF (mgd)
Residential	3,071 units[1]	1	310 gpd/ESD	0.953	2.38
IP PUD (non-CNU)	2,471 units	1	310 gpd/ESD	0.766	1.91
CNU Medical Ctr	600 units	1	310 gpd/ESD	0.186	0.46
Nonresidential	35.0 acres	6	310 gpd/ESD	0.065	0.16
Subtotal CNU Medical				**0.251**	**0.623**
Total				**1.018**	**2.54**

NOTES: ADWF = average dry-weather flow; ESD = equivalent single-family dwelling; mgd = million gallons per day

[1] Residential units per development area: IP PUD: 2,471; CNU Medical Center: 600

SOURCE: City of Sacramento Department of Utilities. 2018. Department of Utilities Design and Procedure Manual, Section 9: Sewer Collection Systems. July 24, 2018.

Infrastructure

As the project area was developed for the Kings sports arena and practice facility, a substantial lateral collection system exists within the project area. Currently, the sports arena and practice facility is vacant and inactive and as a result no wastewater generation and sewer flows occur from the project area. For wastewater planning purposes, the existing conditions are compared to the needs of the proposed project to determine whether or not the existing infrastructure is adequate to serve the area.

Impacts and Mitigation Measures

Impact 4.11-5: Implementation of the proposed project would have the potential to result in a determination by the local wastewater treatment provider that it does not have adequate capacity to serve the project's projected demand in addition to its existing commitments.

Innovation Park PUD

The Sleep Train Arena building and former Sacramento Kings practice facility in the project area are currently vacant and inactive. New development in the project area would increase the area's population through development of the project's planned land uses, the results of which would increase the generation of wastewater flows by 0.766 mgd ADWF. Peak wastewater flows from

development in the project area would be approximately 1.91 mgd ADWF. However, this increase in wastewater flow would not exceed the current excess capacity of up to 46 mgd at the SRWWTP.

Regional San expects per capita consumption to fall 25 percent over the next 20+ years through the ongoing installation and use of water meters, as well as compliance with conservation mandates such as the state Water Conservation Act of 2009 (SB X7-7).[45] As a result, substantial additional conservation is expected throughout Regional San's service area, and the SRWWTP's existing 181 mgd ADWF treatment capacity would be sufficient for at least 40 more years.[46] Thus, no additional wastewater treatment capacity would need to be constructed to accommodate the increase in wastewater generation anticipated under the proposed project, and this impact would be **less than significant**.

CNU Medical Center

New development proposed for the CNU Medical Center would increase the area's population through development of the project's planned land uses, the results of which would increase the generation of wastewater flows by 0.25 mgd ADWF. Peak wastewater flows from development in the CNU project area would be approximately 0.63 mgd ADWF. However, this increase in wastewater flow would not exceed the current excess capacity of up to 46 mgd at the SRWWTP. There would be no unique or distinct differences or additional impacts associated with the proposed CNU Medical Center, compared to those associated with implementation of the proposed project as discussed above. This impact would be similar or identical to that of the proposed project. Thus, no additional wastewater treatment capacity would need to be constructed to accommodate the increase in wastewater generation anticipated with the proposed CNU Medical Center, and this impact would be **less than significant**.

Mitigation Measure

None required.

Impact 4.11-6: Implementation of the proposed project would have the potential to require or result in the construction of new or expanded wastewater conveyance facilities, the construction or relocation of which could cause significant environmental effects.

Innovation Park PUD

SASD staff members have confirmed that development planned for the project area could be accommodated by the existing 24-inch lateral along the Sleep Train Arena Main Entrance and that adequate capacity exists within the downstream conveyance system to serve planned development under the proposed project.[47] However, construction of a backbone wastewater conveyance system to serve future development in the project area would be required. The

45 City of Sacramento. 2015. *2035 General Plan Master EIR.* Certified March 3, 2015. Page 4.13-16.

46 Sacramento Regional County Sanitation District. 2014. *EchoWater Draft Environmental Impact Report*. Available: http://www.regionalsan.com/echowater-project. Accessed April 2014. As cited in City of Sacramento. 2015. *2035 General Plan Master EIR.* Certified March 3, 2015. Page 4.13-16.

47 Lewis, Yadira, and Haley MacGowan. Sacramento Area Sewer District. September 6, 2019—personal communication with Meghan Cronin, PE, Stantec Consulting Services, Inc.

environmental impacts of construction in the project area are analyzed in other sections of this EIR, including Section 4.2, *Air Quality*; Section 4.3, *Biological Resources*; Section 4.4, *Cultural and Tribal Cultural Resources*; Section 4.8, *Noise and Vibration*; and Section 4.10, *Transportation and Circulation*. For this reason, impacts of the proposed project related to the installation of new sewer mains would be **less than significant**.

CNU Medical Center

There would be no unique or distinct differences or additional impacts associated with the proposed CNU Medical Center, compared to those associated with the proposed project as discussed above. For this reason, impacts of the CNU Medical Center related to the installation of new sewer mains would be **less than significant**.

Mitigation Measure

None required.

Cumulative Impacts

The cumulative context for wastewater collection system includes the service area for the SRWWTP and SASD. This includes the cities of Sacramento, Citrus Heights, Folsom, Rancho Cordova, Elk Grove, and West Sacramento, and select unincorporated areas of Sacramento County.

Impact 4.11-7: Implementation of the proposed project, in combination with other development, would have the potential to result in a determination by the local wastewater treatment provider that it does not have adequate capacity to serve the cumulative demand in addition to the provider's existing commitments.

Innovation Park PUD

Anticipated cumulative development within the Sacramento city limits, and in other municipalities and unincorporated areas of Sacramento County that fall within the Regional San service area, would result in a net increase in the amount of wastewater conveyed to the SRWWTP. Because these areas include wastewater flows that are conveyed through the combined sewer system and separated sewer system, development as described in the 2035 General Plan would increase demand for conveyance and treatment capacity.

Development under the 2035 General Plan would increase wastewater flows such that the demand for wastewater treatment at the SRWWTP would also increase. According to Regional San's 2020 Master Plan Final Executive Summary, the reliable capacity of existing facilities in the year 2020 was limited to an ADWF of approximately 207 mgd. In addition, the permitted capacity of existing facilities to treat wet-weather flows was limited to a peak wet-weather flow of 392 mgd. Flows by 2020 were projected at 218 mgd ADWF and 434 mgd peak wet-weather flow, meaning that existing facilities would be insufficient for increases in wastewater flows caused by future development, resulting in a significant cumulative impact.[48]

[48] Sacramento Regional County Sanitation District. 2008. *2020 Master Plan Final Executive Summary for the Sacramento Regional Wastewater Treatment Plant.* May 2008. Page 15.

Regional San's 2020 Master Plan outlines improvements required to provide adequate treatment capacity for this increased demand within its service area, as developed by the Sacramento Area Council of Governments' population projections. Full buildout of these improvements would produce capacities of 350 mgd ADWF and 833 mgd peak wet-weather flow,[49] ensuring sufficient capacity to account for the buildout of projected development within the Regional San service area. The 2020 Master Plan also discusses facilities updates that would ensure treatment compliance with effluent requirements as projected by the Central Valley RWQCB.

The wastewater contributions of the proposed project to cumulative increases in wastewater treatment demand would represent less than 1 percent of the SRWWTP's full capacity under buildout of the 2020 Master Plan. There is available capacity to treat wastewater generated by projected development within the Regional San service area, including the approximately 0.0953 mgd ADWF and 2.38 mgd peak ADWF generated by development allowed under the proposed project. As a result, this cumulative impact would be **less than significant**.

CNU Medical Center

There would be no unique or distinct differences or additional impacts associated with the proposed CNU Medical Center, compared to those associated with implementation of the proposed project as discussed above. This impact would be similar or identical to that of the proposed project. As a result, this cumulative impact would be **less than significant**.

Mitigation Measure

None required.

Impact 4.11-8: Implementation of the proposed project, in combination with other development, would have the potential to require or result in the construction of new or expanded wastewater conveyance facilities, the construction or relocation of which could cause significant environmental effects.

Innovation Park PUD

New development within the SASD service area would generate additional wastewater flows that would need to be conveyed to the SRWWTP. These additional wastewater flows would likely require upgrades to SASD's existing wastewater conveyance system, the construction of which could cause significant environmental effects. Implementation of General Plan Policies U 3.1.1.1 and U 3.1.2 would ensure that new wastewater conveyance infrastructure would be sufficient for peak sanitary flows and be designed to meet ultimate capacity needs.

As discussed above, SASD staff members have indicated that adequate capacity exists within the downstream conveyance system to serve planned development under the proposed project. However, the construction of a backbone wastewater conveyance system to serve future development within the project area would be required. As a result, the contribution of the

[49] Sacramento Regional County Sanitation District. 2008. *2020 Master Plan Final Executive Summary for the Sacramento Regional Wastewater Treatment Plant.* May 2008. Page 14.

proposed project to this impact would not be cumulatively considerable, and this cumulative impact would be **less than significant**.

CNU Medical Center

There would be no unique or distinct differences or additional impacts associated with the proposed CNU Medical Center, compared to those associated with implementation of the proposed project as discussed above. This impact would be similar or identical to that of the proposed project and would not be cumulatively considerable, and this cumulative impact would be **less than significant**.

Mitigation Measure

None required.

4.11.3 Storm Drainage

Environmental Setting

The Sacramento area's climate is characterized by mild winters and dry, hot summers. Sacramento experiences an average of approximately 20 inches of rain per year, with most precipitation occurring between November and March. Rainfall totals increase significantly from southwest to northeast across the region, as orographic effects[50] result in an increase in precipitation with elevation. On average, measurable precipitation falls 63 days out of the year.

The North Natomas Drainage Basin collects and treats stormwater from nine sheds in the developed areas of North Natomas. The project area is within Shed 5, which encompasses an area east of East Commerce Way, south of Del Paso Road, north of Arena Boulevard, and west of the East Drainage Canal. Stormwater in the project area is conveyed to Detention Basin 5-A, located at the southwest corner of Terracina Drive adjacent to the East Drainage Canal. From Detention Basin 5-A, the stormwater is pumped into the East Drainage Canal.

The existing Shed 5 storm drain system consists of pipes ranging from 12 to 96 inches. Detention Basin 5-A and Shed 5 were designed based on full buildout conditions within the shed, including roadway, commercial, residential, and recreational land uses.

The project area is located within two watersheds in Shed 5: Watershed 5N and Watershed 5A. The northern portion of the project area—all of Parcel B and portions of Parcels A, C, and E—is located in Watershed 5N, and the southern portion of the project area—all of Parcel D and other portions of Parcels A, C, and E—are generally located in Watershed 5A. The portion of the project area located in Watershed 5N would drain into an existing 84-inch storm drain located along the East Entrance, while the portion of the project area located in Watershed 5A would drain into an existing 96-inch storm drain within Arena Boulevard.

[50] The orographic effect occurs when air masses are forced to flow over high topography. As air rises over mountains, it cools and water vapor condenses. As a result, it is common for rain to be concentrated on the windward side of mountains, and for rainfall to increase with elevation in the direction of storm tracks.

The existing project site includes the Sleep Train Arena and practice facility. The majority of the southern portion of the PUD area is paved parking lot and the private Sports Parkway, which is approximately 64 percent of the site. The northern portion of the site is undeveloped and is approximately 28 percent of the total area. This area of the site contains a partially completed foundation and excavated area for a previously planned baseball stadium, which was suspended many years prior. Adjacent uses to the PUD area include mixed-use commercial, multi-family residential, and vacant land uses. The rest of the site include 8% roadways, with typical 90 to 95 percent imperviousness.

The site drains to a storm drainage pipeline along West Taron Drive at four locations. The upstream end of this pipeline is adjacent to the CNU Medical Center site, just southwest of the West Taron Drive/Elk Grove Boulevard intersection. The pipeline flows southwest and receives runoff from West Taron Drive and a portion of Riparian Drive to the southeast, in addition to runoff from the Project site. The pipeline ultimately outfalls to a detention basin to the south.

CNU is proposing to install low-impact development bioretention planters with underdrains and rain gardens in landscaped areas on the Project site to provide treatment benefits while reducing the volume of runoff that must be treated before discharge from the site. In addition, six 8-foot by 24-foot treatment vaults would be installed at stormwater discharge locations to treat residual runoff and address trash capture requirements. The existing City storm drain facilities would continue to serve the CNU Medical Center. New water quality features would employ best management practices designed and installed to comply with the Stormwater Quality Design Manual for the Sacramento Region.

Regulatory Setting

Federal and State

No federal or state regulations related to storm drainage are relevant to the proposed project, including the proposed CNU Medical Center.

Local

Stormwater Quality Design Manual

The City of Sacramento adopted the *Stormwater Quality Design Manual for the Sacramento and South Placer Regions*, a joint effort of the communities in the greater Sacramento region.[51] The design manual provides locally adapted information for design and selection of three categories of stormwater quality control measures: source control, runoff reduction, and treatment control. The design manual requires multi-family and commercial projects greater than 1 acre to implement permanent post-construction treatment measures.

[51] City of Citrus Heights, City of Elk Grove, City of Folsom, City of Galt, City of Rancho Cordova, City of Sacramento, and County of Sacramento. 2018. *Stormwater Quality Design Manual for the Sacramento Region: Integrated Design Solutions for Urban Development, Protecting our Water Quality.* July 2018.

Sacramento 2035 General Plan

The following goal and policy from the 2035 General Plan's Utilities Element related to storm drainage are relevant to the proposed project, including the proposed CNU Medical Center.

> **Goal U 4.1: Adequate Stormwater Drainage.** Provide adequate stormwater drainage facilities and services that are environmentally-sensitive, accommodate growth, and protect residents and property.
>
> > ***Policy U 4.1.1: Adequate Drainage Facilities.*** The City shall ensure that all new drainage facilities are adequately sized and constructed to accommodate stormwater runoff in urbanized areas.
> >
> > ***Policy U 4.1.3: Regional Stormwater Facilities.*** The City shall coordinate efforts with Sacramento County and other agencies in the development of regional stormwater facilities.
> >
> > ***Policy U 4.1.4: Watershed Drainage Plans.*** The City shall require developers to prepare watershed drainage plans for proposed developments that define needed drainage improvements per City standards, estimate construction costs for these improvements, and comply with the City's National Pollutant Discharge Elimination System (NPDES) permit.
> >
> > ***Policy U 4.1.6: New Development.*** The City shall require proponents of new development to submit drainage studies that adhere to City stormwater design requirements and incorporate measures, including "green infrastructure" and Low Impact Development (LID) techniques, to prevent on- or off-site flooding.

The proposed project, including the proposed CNU Medical Center, would be consistent with this General Plan goals and these policies. Consistent with these policies, project utilities would be appropriately sized and installed within the site to maintain adequate service in light of the impact analysis provided below; the project applicant would pay a fair share of the cost for any needed upgrades, as warranted. With respect to Goal U 4.1.1, Policies U 4.1.4, and U 4.1.6, a stormwater drainage plan was prepared for the proposed project (see Appendix I), and the City expects to be able to serve the proposed project, including the proposed CNU Medical Center, in light of all other current and planned projects.

Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, impacts on storm drainage utilities may be considered significant if implementation of the proposed project would:

- Require or result in the relocation or construction of new or expanded stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects.

Methodology and Assumptions

The following impact analysis evaluates the potential for the proposed project, including the proposed CNU Medical Center, to result in changes to existing stormwater infrastructure

facilities. The analysis compares the amount of impervious surfaces before and after implementation of the proposed project to determine whether there would be a significant increase, thus affecting runoff.

It is anticipated that the project area would generate approximately 1.9 mgd during peak wet-weather flow (see Appendix I).

Impacts and Mitigation Measures

Impact 4.11-9: Implementation of the proposed project would have the potential to require or result in the construction of new or expanded storm water drainage facilities, the construction or relocation of which could cause significant environmental effects.

Innovation Park PUD

Existing land uses in the project area are approximately 86 percent commercial (including the arena and parking lots with minimal landscaping) and 14 percent roadways. The proposed land uses are anticipated to include approximately 47 percent residential, 32 percent commercial, and 21 percent roadways with typical percent imperviousness of 80 percent, 90 percent, and 95 percent, respectively.

Despite the sub-shed boundary adjustment, and given the proposed modifications to site land uses, there is anticipated to be minimal change in imperviousness and minimal (if any) increases in stormwater runoff. The existing storm drain has sufficient capacity from the project area's points of connection at the East Entrance/Terracina Drive intersection, the South Entrance/ Innovator Drive intersection, and within Sports Parkway. Existing Detention Basin 5-A also has sufficient capacity based on the analyses included in the North Natomas Drainage Plan Sheds 5 and 6 (Sump 15 and Sump 16) Final Document, dated December 12, 1997.

Because the existing drainage system serving the project area was designed to accommodate development assumed in the North Natomas Drainage Plan, and because development in the project area would result in less impervious surface in the project area, the existing drainage system in the vicinity of the project area should be adequate to serve future development allowed under the proposed project. However, the applicant has prepared a drainage study that will be submitted to the City and reviewed to verify this conclusion. As a result, it is possible that upgrades to off-site stormwater conveyance infrastructure may be required. However, given the urbanized nature of the adjacent area, it is unlikely that any upgrades to this system would result in significant environmental impacts, as these improvements would occur within an existing street or right-of-way that has previously been disturbed. In addition, the construction of an on-site storm drain system to serve future development in the project area would also be required. The environmental impacts of construction of this system in the project area are analyzed in other sections of this EIR, including Section 4.2, *Air Quality*; Section 4.3, *Biological Resources*; Section 4.4, *Cultural and Tribal Cultural Resources*; Section 4.8, *Noise and Vibration*; and Section 4.10, *Transportation and Circulation*. For these reasons, impacts of the proposed project related to the installation of new storm drains would be **less than significant**.

CNU Medical Center

There would be no unique or distinct differences or additional impacts associated with the proposed CNU Medical Center, compared to those associated with implementation of the proposed project as discussed above. The environmental impacts of construction of this system on the CNU Medical Center site are analyzed in the other sections of this EIR, including Section 4.2, *Air Quality*; Section 4.3, *Biological Resources*; Section 4.4, *Cultural and Tribal Cultural Resources*; Section 4.8, *Noise and Vibration*; and Section 4.10, *Transportation and Circulation*. For these reasons, impacts of the proposed CNU Medical Center related to the installation of new storm drains would be **less than significant**.

Mitigation Measure

None required.

Cumulative Impacts

The cumulative context for storm drainage includes the area covered by the North Natomas Drainage Basin, which covers approximately 7,400 acres in northwestern Sacramento County and southeast Sutter County.

Impact 4.11-10: Implementation of the proposed project, in combination with other development, would have the potential to require or result in the construction of new or expanded stormwater drainage facilities, the construction or relocation of which could cause significant environmental effects.

Innovation Park PUD

Future development under the 2035 General Plan would require the construction of new storm drain infrastructure, the construction of which could cause significant environmental effects. Implementation of General Plan Policy U 4.1.1 would ensure that new storm drain infrastructure would be adequately sized and constructed to accommodate the additional stormwater generated by future development. As discussed above, upgrades to off-site stormwater conveyance infrastructure may be required. However, given the urbanized nature of the adjacent area, it is unlikely that improvements to this infrastructure would result in significant environmental impacts, as the improvements would occur within an existing street or right-of-way that has been previously disturbed. In addition, construction of a backbone storm drain system to serve future development in the project area would also be required. As a result, the contribution of the proposed project to this impact would not be cumulatively considerable, and this cumulative impact would be **less than significant**.

CNU Medical Center

There would be no unique or distinct differences or additional impacts associated with the proposed CNU Medical Center, compared to those associated with implementation of the proposed project as discussed above. As a result, the contribution of the proposed CNU Medical Center to this impact would not be cumulatively considerable, and this cumulative impact would be **less than significant**.

Mitigation Measure

None required.

4.11.4 Solid Waste

Environmental Setting

Residential waste in the city of Sacramento is collected by the City's Recycling and Solid Waste Division.[52] Commercial and multi-family waste is collected by private franchised haulers.[53] Solid waste collected by the commercial haulers is either taken to a transfer station and then transported to a landfill, or taken directly to a landfill.

Commercial wastes can be taken to a variety of landfills, as long as they are compliant with the Sacramento Regional Solid Waste Authority (SWA) Code for commercial waste hauling.[54] A majority of the residential solid waste collected in the city is taken to the Sacramento Recycling and Transfer Station or the North Area Recovery Station, where it is sorted for transport to disposal facilities.[55] Construction and demolition waste is either collected by commercial franchise haulers or hauled by the contractor or permit holder. If construction and demolition debris is being hauled by anyone else, it must be source separated and sent to an authorized recycler or delivered to a certified construction and demolition debris sorting facility.[56]

Most refuse collected by the City is transported to the Sacramento Recycling and Transfer Station and to the Lockwood Regional Landfill in Sparks, Nevada. The Sacramento Recycling and Transfer Station, owned and operated by BLT Enterprises, is limited to accepting 2,500 tons per day (tpd) of solid waste. The design capacity is 3,000 tpd.[57]

The Lockwood Regional Landfill is owned and operated by a private firm, Waste Management, Inc., and is the primary location for the disposal of waste by the City. This landfill is permitted to accept municipal solid waste and construction and demolition debris, and receives approximately 5,000 tpd of waste. The landfill has a total maximum permitted capacity of 302.5 million cubic yards and has approximately 270 million cubic yards of available capacity.

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52 City of Sacramento. 2019. About RSW. Available: http://portal.cityofsacramento.org/General-Services/RSW/About-RSW. Accessed November 6, 2019.

53 City of Sacramento. 2019. Commercial Solid Waste & Construction Services. Available: http://portal.cityofsacramento.org/General-Services/RSW/Collection-Services/Commercial-Services. Accessed November 6, 2019.

54 Sacramento Regional Solid Waste Authority. 2015. SWA Code, Title II: Regulating Commercial Solid Waste Collection, Transportation, or Disposal.

55 City of Sacramento. 2015. City's 2014 CalRecycle Electronic Annual Report.

56 City of Sacramento. 2013. Construction & Demolition Management Plan. Available: http://portal.cityofsacramento.org/General-Services/RSW/Collection-Services/Recycling/Construction-and-Demolition. Accessed November 6, 2019.

57 City of Sacramento. 2019. Non-Disposal Facility Element. Available: https://www.cityofsacramento.org/Public-Works.

Waste is also processed at the North Area Recovery Station, owned and operated by Sacramento County, and is limited to accepting 2,400 tpd.[58] In 2020, processed an average of 1,200 tons of recyclables, trash, yard waste, and construction debris from the public. Over 900 vehicles a day visited the facility to dispose of solid waste.

Waste brought to this station is transported to the Kiefer Landfill. Sacramento County owns and operates the Kiefer Landfill, which is the primary solid waste disposal facility in the county. The Kiefer Landfill is classified as a Class III municipal solid waste landfill facility and is permitted to accept general residential, commercial, and industrial refuse for disposal, including municipal solid waste, construction, and demolition debris, green materials, agricultural debris, and other nonhazardous designated debris. The landfill is permitted to accept a maximum of 10,815 tpd of solid waste and currently has a design capacity of approximately 117 million cubic yards. The Kiefer Landfill has 75 million cubic yards of remaining capacity and is expected to be operational until 2098.[59]

Construction and demolition waste, which is collected by both the City's fleet and private companies, may also be disposed of at the Yolo County Landfill, Forward Landfill, and L and D Landfill. Private haulers can deliver waste to the landfill of their choice and base the decision on market conditions and capacity.

Regulatory Setting

Federal

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA), Subtitle D (United States Code Title 42, Section 6901 et seq.), contains regulations for municipal solid waste landfills and requires states to implement their own permitting programs incorporating the federal landfill criteria. The federal regulations address the location, operation, design, groundwater monitoring, and closure or landfills. The USEPA waste management regulations are codified in Code of Federal Regulations Title 40, Parts 239–282. RCRA Subtitle D is implemented by Public Resources Code Title 27, approved by USEPA.

State

Integrated Waste Management Act (Assembly Bill 939)

Regulations affecting solid waste disposal in California are included in Public Resources Code Title 14, the Integrated Waste Management Act, which was originally adopted in 1989. AB 939 was designed to increase landfill life by diverting solid waste from landfills in the state and conserving other resources through increasing recycling programs and incentives. AB 939 requires counties prepare integrated waste management plans to implement landfill diversion goals, and requires cities and counties to prepare and adopt source reduction and recycling elements. These elements must set forth a program for management of solid waste generated with

[58] County of Sacramento. Department of Waste Management & Recycling, 2021. Pers. Comm. September 1, 2021 Peter Hoseit, PE

[59] County of Sacramento. Department of Waste Management & Recycling, 2021. Pers. Comm. September 1, 2021 Peter Hoseit, PE

the jurisdiction of the respective city or county. Each source reduction and recycling element must include, but is not limited to, all of the following components for solid waste generated in the jurisdiction of the plan:

- Waste characterization
- Source reduction
- Recycling
- Composting
- Solid waste facility capacity
- Funding
- Special waste

The Source Reduction and Recycling Element programs are designed to achieve landfill diversion goals by encouraging recycling in the manufacture, purchase and use of recycled products. AB 939 also requires California cities to implement plans designed to divert the total solid waste generated within each jurisdiction by 50 percent based on a base year of 2000. The diversion rate is adjusted annually for population and economic growth when calculating the percentage achieved in a particular jurisdiction.

Public Resources Code Section 41780

The California Legislature set the policy goal for the state that not less than 75 percent of solid waste generated be source reduced, recycled, or composted by the year 2020. Furthermore, a 50 percent diversion rate was to be enforced for local jurisdictions.

Assembly Bill 1220

The California Department of Resources Recycling and Recovery (CalRecycle) and the SWRCB completed a parallel rulemaking as a result of AB 1220 (Chapter 656, Statutes of 1993). AB 1220 required clarification of the roles and responsibilities of the two boards, the RWQCB's and CalRecycle's local enforcement agencies in regulating solid waste disposal sites. The approved Title 27 regulations combine prior disposal site/landfill regulations of CalRecycle and the SWRCB that were maintained in CCR Title 14 and CCR Title 23, Chapter 15 (which contains requirements for disposal of hazardous waste).

The purpose of these CalRecycle standards is to protect public health and safety and the environment. The regulations apply to active and inactive disposal sites, including facilities or equipment used at the disposal sites. These standards make clear that primary responsibility for enforcing state minimum standards rests with the local enforcement agency in cooperation with the RWQCB or other oversight agency. Subchapters of Title 27 include all of the following:

- Operating criteria for landfills and disposal sites.
- Requirements to have enough materials to cover waste to prevent a threat to human health and the environment.

- Requirements for operations at solid waste facilities for the handling of waste and equipment needs of the site.
- Requirements for controlling activities on-site.
- Requirements for controlling landfill gas created from the decomposition of wastes on-site.
- Requirements for the owner/operator of a facility to properly operate the site to protect the site from fire threat.

Assembly Bill 341

To reduce greenhouse gas emissions from the disposal of recyclables in landfills, AB 341 (Chapter 476, Statutes of 2011) requires local jurisdictions to implement commercial solid waste recycling programs. Businesses that generate 4 cubic yards or more of solid waste per week or multifamily dwellings of five units or more must arrange for recycling services. To comply with AB 341, jurisdictions' commercial recycling programs must include education, outreach, and monitoring of commercial waste generators and report on the process to CalRecycle. Jurisdictions may enact mandatory commercial recycling ordinances to outline how the goals of AB 341 will be reached. For businesses to comply with AB 341, they must arrange for collection of recyclables through self-hauling, subscribing to franchised haulers for collection, or subscribing to a recycling service that may include mixed-waste processing that yields diversion results comparable to source separation.[60]

Assembly Bill 1826

To further reduce greenhouse gas emissions from disposal of organics materials in landfills, AB 1826 (Chapter 727, Statutes of 2014) required businesses to recycle their organic waste beginning on April 1, 2016, depending on the amount of solid waste generated per week. Similar to AB 341, AB 1826 requires jurisdictions to implement an organic waste recycling program that includes the education, outreach, and monitoring of businesses that must comply. *Organic waste* refers to food waste, green waste, landscaping and pruning waste, nonhazardous wood waste, and food-soiled paper that is mixed with food waste.

Local

Sacramento Regional Solid Waste Authority

The SWA was initially formed in 1992 to oversee solid waste, recycling, and disposal needs in the greater Sacramento area. The SWA is a joint powers authority funded by franchise fees. The SWA is overseen by a board of directors, which is composed of elected officials from member cities (currently the City of Sacramento) and Sacramento County. The SWA regulates commercial solid waste collection by franchised haulers through ordinances. SWA ordinances include the requirement that franchised haulers achieve a 30 percent recycling rate and offer recycling services to businesses and multi-family dwelling units.

[60] California Department of Resources Recycling and Recovery. 2021. Mandatory Commercial Recycling: Key Elements of the Law. Available: http://www.calrecycle.ca.gov/recycle/commercial/#Elements.

Sacramento 2035 General Plan

The following goal and policy from the 2035 General Plan's Utilities Element related to solid waste collection and disposal are relevant to the proposed project, including the proposed CNU Medical Center.

> **Goal U 5.1: Solid Waste Facilities.** Provide adequate solid waste facilities, meet or exceed State law requirements, and utilize innovative strategies for economic and efficient collection, transfer, recycling, storage, and disposal of refuse.
>
> > ***Policy U 5.1.5: Residential and Commercial Waste Disposal.*** The City shall continue to provide curbside trash and recycling collection service to single-family residential dwellings and offer collection service to commercial and multi-family residential development.

Because the city of Sacramento and the existing landfills provide these services and maintain these facilities, the proposed project, including the proposed CNU Medical Center, would be consistent with this General Plan goal and policy.

Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, impacts related to solid waste may be considered significant if implementation of the proposed project would:

- Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or
- Fail to comply with federal, state, and local statutes and regulations related to solid waste.

Methodology and Assumptions

The following impact analysis evaluates the potential for the proposed project, including the proposed CNU Medical Center, to result in changes to existing infrastructure and supply related to solid waste. The analysis focuses on wastes generated by the proposed project and potential impacts on solid waste handling and disposal facilities located outside of the project area.

The analysis of impacts on solid waste services is based on an estimate of the amount of solid waste that would be generated by the proposed project, using solid waste generation rates provided by CalRecycle and the City's 2035 General Plan Master EIR. The residential generation rate is 1.1 tons per dwelling unit per year and the nonresidential rate is 10.8 pounds per employee per day. Residential solid waste would be generated within the Innovation Park PUD development and the proposed CNU Medical Center's 600 faculty and student housing units. CNU Medical Center employees would also generate solid waste that would need to be disposed at solid waste landfills and also at facilities licensed to accept medical waste products.

Potential changes in solid waste generation were evaluated using the waste generation factors shown in **Table 4.11-8**. Estimated solid waste generation for the proposed project was also calculated based on the factors shown in Table 4.11-8.

TABLE 4.11-8
SOLID WASTE GENERATION RATES FOR THE PROPOSED PROJECT

Land Use	Generation Rate	Dwelling Units	Employees	Solid Waste Generation (tons/year)
Innovation Park PUD Residential	1.1 tons/dwelling unit/year	2,471	N/A	2,718
CNU Medical Center (nonresidential)[1]	10.8 lb/day/employee	N/A	7,420	14,625
CNU Medical Center—Faculty/Student Housing	1.1 tons/dwelling unit/year	600	N/A	660
Totals		**3,071**	**5,340**	**18,003**

NOTES: CNU Medical Center = California Northstate University Medical Center; lb = pounds; N/A = not applicable; PUD = Planned Unit Development

SOURCE: City of Sacramento. 2015. *2035 General Plan Master EIR*. Certified March 3, 2015.

Impacts and Mitigation Measures

Impact 4.11-11: The proposed project would have the potential to generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.

Innovation Park PUD

Construction

Project construction would result generate various types of construction waste: scrap lumber, scrap finishing materials, various scrap metals, and other recyclable and nonrecyclable construction-related wastes. Construction waste would be managed in accordance with ordinances promulgated by the SWA—in particular, in accordance with SWA's requirement that haulers achieve a 30 percent recycling rate. Recyclable construction materials—concrete, metals, wood, and other materials—would be diverted to recycling facilities.

Development in the project area would comply with City requirements to divert a minimum of 50 percent of construction wastes to a certified recycling processor. Adhering to these requirements would minimize the total volume of demolition and construction waste that would be landfilled, but would not avoid disposal of all construction waste in local landfills. Construction waste would be delivered to one or more of the following facilities: the Lockwood Landfill, Kiefer Landfill, L and D Landfill, Yolo County Central Landfill, or Forward Landfill. Given the large volume of landfill capacity available to serve the proposed project, sufficient landfill capacity would be available to serve the project's development. Because new or expanded solid waste management or disposal facilities would not be required to accommodate project-related construction, no adverse physical environmental effects would occur. As a result, potential construction-related impacts of the proposed project on landfills would be **less than significant**.

Operation

Operations under the proposed project would generate municipal solid waste. Waste from operations would include household, commercial, residential, and office wastes. As shown in Table 4.11-8, development anticipated under the proposed Innovation Park PUD (i.e., the

proposed project minus the proposed CNU Medical Center) would generate approximately 2,718 tons of solid waste per year.

Waste generated by development allowed under the proposed project would be collected and transported to local landfills by the City. Such waste would be either recycled in accordance with City programs and requirements, landfilled at the Kiefer Landfill, or transported to and landfilled at the Lockwood Landfill in Sparks, Nevada. These facilities together currently have approximately 382 million cubic yards[61] in available capacity. Project-related wastes would represent less than one-tenth of 1 percent (<0.01 percent) of total annual capacity for these two landfills. Sufficient landfill capacity would be available to serve development under the proposed project, and this development would not require new or expanded solid waste management or disposal facilities. Additionally, implementation of typical recycling rates and SWA recycling requirements would result in the diversion of a portion of the total waste stream to recycling. This would further minimize impacts on landfill capacity.

Because there would be no need to expand or create new landfill or solid waste management facilities, there would be no related physical environmental effects. Therefore, the operational impact of the proposed project on landfills would be **less than significant**.

CNU Medical Center

Construction

There would be no unique or distinct differences or additional impacts associated with the proposed CNU Medical Center, compared to those associated with implementation of the proposed project as discussed above. As a result, potential construction-related impacts of the proposed CNU Medical Center on landfills would be **less than significant**.

Operation

Operations allowed under the proposed CNU Medical Center would result in the generation of municipal solid waste. Waste from operations would include household, commercial, medical, residential, and office wastes. As shown in Table 4.11-8, development anticipated under the proposed CNU Medical Center would generate a total of approximately 15,285 tons of solid waste per year.

The CNU Medical Center would generate solid waste at a higher rate than under existing conditions and development under the Innovation Park PUD as described above; however, capacity remains available at the above-listed landfills. For this reason, there would be no need to expand or create new landfill or solid waste management facilities, and no related physical environmental effects would occur. Therefore, the impact on landfills during operation of the proposed CNU Medical Center would be **less than significant**.

[61] One cubic yard is equivalent to approximately 0.1125 tons un-compacted, or approximately 0.375 tons compacted, as waste would arrive at the landfill from trucks or other transport equipment.

Mitigation Measure

None required.

Cumulative Impacts

The following discussion provides an analysis of cumulative impacts that could occur as a result of the proposed project. The cumulative context for solid waste includes all development within the SWA's service area, including the city of Sacramento.

Impact 4.11-12: Implementation of the proposed project, in combination with other development, would have the potential to generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or to otherwise impair the attainment of solid waste reduction goals.

Innovation Park PUD

As discussed previously, the Lockwood Landfill, one of the primary landfills used by the City, is expected to have sufficient capacity to maintain operation for at least 100 years. The Kiefer Landfill, the other primary landfill used by the City, maintains approximately 45 years of available capacity.

With growth projected under the 2035 General Plan, residences in the city of Sacramento would produce an additional 69,300 tons of solid waste per year. Furthermore, using employment rates at buildout, it can be estimated that businesses would produce an additional 112,080 tons of solid waste per year. Thus, by 2035, the city of Sacramento would produce an additional 181,380 tons of solid waste per year. This does not take into account reduction and diversion programs, which mandate the diversion of at least 50 percent of waste, thus reducing the total to a conservative estimate of 90,690 tons per year. Available landfill capacity would be sufficient to accommodate these increases, along with the 18,003 tons of solid waste per year from development allowed under the proposed project. Therefore, this cumulative impact would be **less than significant**.

CNU Medical Center

The proposed CNU Medical Center would generate a larger amount of municipal solid waste than under either existing conditions or non-medical center development under the Innovation Park PUD. Capacity at the above-listed landfills remains available; there would be no need to expand or create new landfill or solid waste management facilities, and no related physical environmental effects would occur. Therefore, this cumulative impact would be **less than significant**.

Mitigation Measure

None required.

4.11.5 Electricity, Natural Gas, and Telecommunications

Environmental Setting

Electricity

Electrical service to the project area is provided by SMUD. SMUD is responsible for the generation, transmission, and distribution of electrical power to its 900-square-mile service area, which includes most of Sacramento County and a small portion of Placer County. SMUD is a publicly owned utility governed by an elected board of seven directors that makes policy decisions and appoints the general manager, the individual responsible for district operations.

Power is transmitted to the project area and vicinity by a 69-kilovolt (kV) transmission line that feeds several substations that step down power to 12 kV and 21 kV distribution systems; this transmission line runs through the northern edge of the project area. The project area is served by an existing 12 kV system through connections along the east, west and south entrances of the site.

Natural Gas

Gas service to the project area is currently supplied by Pacific Gas and Electric Company (PG&E). PG&E is a publicly owned utility that provides electricity and natural gas distribution, electricity generation, transportation and transmission, natural gas procurement, and storage. The utility company is bound by contract to update its systems to meet any additional demand. PG&E serves 48 counties in California with a total service area of approximately 70,000 square miles in Northern and Central California. PG&E provides services with 42,141 miles of natural gas distribution pipelines and 6,438 miles of transportation pipelines. PG&E operates 6,700 miles of gas transmission pipelines, as well as 42,000 miles of gas distribution pipelines.[62,63]

Telecommunications

Telecommunications service to North Natomas is provided by several providers, including Comcast and AT&T. These providers provide local and long-distance phone, high-speed internet, and cable television service and generally complete upgrades to their existing distribution systems as the need arises to meet customer demand.

Regulatory Setting

Federal

No federal regulations related to electricity, natural gas, or telecommunications are relevant to the proposed project, including the proposed CNU Medical Center.

62 Pacific Gas and Electric Company. 2019. Company Profile. Available: www.pge.com/en_US/about-pge/company-information/profile/profile.page.

63 Pacific Gas and Electric Company. 2019. Learn about the PG&E Natural Gas System. Available: www.pge.com/en_US/safety/how-the-system-works/natural-gas-system-overview/natural-gas-system-overview.page.

State

Clean Energy and Pollution Reduction Act

The Clean Energy and Pollution Reduction Act (SB 350), enacted in 2015, established new clean energy, clean air, and greenhouse gas (GHG) reduction goals through 2030 and beyond. The purpose of SB 350 is to reduce California's GHG emissions to 40 percent below 1990 levels by 2030, thus helping the state to meet its goal of reducing GHG emissions to 80 percent below 1990 levels by 2050. This 2030 emissions reduction target addresses energy efficiency standards and the use of resources eligible under the Renewables Portfolio Standard (e.g., solar, wind, biomass, geothermal). When working to achieve these goals, large utilities are required to implement integrated resource plans that specify how the utilities will reduce GHG emissions and increase the delivery of clean energy resources while still meeting the needs of their customer bases.[64]

California Green Building Standards Code

The California Green Building Standards Code, or CALGreen, represents Part 11 of the California Building Standards Code under CCR Title 24. CALGreen is intended to promote sustainable construction practices by reducing negative impacts associated with construction, applying design and methodology to encourage positive environmental impacts. The code is the state's first green building code, and applies to "the planning, design, operation, construction, use, and occupancy of every newly-constructed building or structure on a statewide basis unless otherwise indicated."[65]

Local

Sacramento 2035 General Plan

The following goals and policies from the 2035 General Plan's Utilities Element related to energy, natural gas, and telecommunications are relevant to the proposed project, including the proposed CNU Medical Center.

> **Goal U 6.1: Adequate Level of Service.** Provide for the energy needs of the city and decrease dependence on nonrenewable energy sources through energy conservation, efficiency, and renewable resource strategies.
>
> > ***Policy U 6.1.1: Electricity and Natural Gas Services*.** The City shall continue to work closely with local utility providers to ensure that adequate electricity and natural gas services are available for existing and newly developing areas.
> >
> > ***Policy U 6.1.5: Energy Consumption per Capita.*** The City shall encourage residents and businesses to consume 25 percent less energy by 2030 compared to the baseline year of 2005.
> >
> > ***Policy U 6.1.6: Renewable Energy.*** The City shall encourage the installation and construction of renewable energy systems and facilities such as wind, solar, hydropower, geothermal, and biomass facilities.

64 California Energy Commission. 2019. Clean Energy and Pollution Reduction Act—SB 350. Available: https://www.energy.ca.gov/sb350/index.html#sb350.

65 California Department of Housing and Community Development. 2019. California Green Building Standards Code—CALGreen. Available: www.hcd.ca.gov/building-standards/calgreen/index.shtml. Accessed January 10, 2019.

Policy U 6.1.7: Solar Access. The City shall ensure, to the extent feasible, that sites, subdivisions, landscaping, and buildings are configured and designed to maximize passive solar access.

Policy U 6.1.8: Other Energy Generation Systems. The City shall promote the use of locally shared solar, wind, and other energy generation systems as part of new planned developments.

Policy U 6.1.15: Energy Efficiency Appliances. The City shall encourage builders to supply Energy STAR appliances and HVAC systems in all new residential developments, and shall encourage builders to install high-efficiency boilers where applicable, in all new non-residential developments.

Goal U 7.1: Telecommunication Technology. Provide state-of-the-art telecommunication services to households, businesses, institutions, and public agencies throughout the city that connect Sacramento to the nation and world.

Policy U 7.1.5: Large Scale Developments. The City shall establish requirements for the installation of state-of-the-art internal telecommunications technologies in new large-scale planned communities and office and commercial developments (e.g., wiring of all new housing and businesses).

The proposed project, including the proposed CNU Medical Center, would be consistent with this General Plan goals and these policies. Consistent with these policies, project utilities would be appropriately sized and installed within the site to maintain adequate service in light of the impact analysis provided below; the project applicant would pay a fair share of the cost for any needed upgrades, as warranted. With respect to Goal U 6.1.1, 6.1.6, 6.1.7, 6.1.8, 6.1.15 and Policy U 7.1.5, the City or utility providers expect to be able to serve the proposed project, including the proposed CNU Medical Center, in light of all other current and planned projects.

Analysis, Impacts, and Mitigation

Significance Criteria

For purposes of this EIR and consistent with the criteria presented in Appendix G of the CEQA Guidelines, impacts related to electricity and natural gas may be considered significant if implementation of the proposed project would:

- Require or result in the construction of new or expanded energy transmission or distribution facilities that could result in significant environmental effects; or
- Require or result in the construction of new or expanded telecommunications transmission or distribution facilities that could result in significant environmental effects.

Methodology and Assumptions

Impacts of the proposed project, including the proposed CNU Medical Center, related to electricity were analyzed by determining whether SMUD would be able to adequately serve development allowed under the proposed project, and whether construction of new facilities would adversely affect SMUD's electrical service capacity or infrastructure.

Impacts of the proposed project, including the proposed CNU Medical Center, related to natural gas were analyzed by determining whether PG&E would be able to adequately serve development allowed under the proposed project, and whether construction of new facilities would adversely affect PG&E's natural gas service capacity or infrastructure.

Impacts and Mitigation Measures

Impact 4.11-13: Implementation of the proposed project would have the potential to require or result in the construction of new or expanded energy transmission or distribution facilities, the construction or relocation of which could cause significant environmental effects.

Innovation Park PUD

Electricity

Development undertaken as part of the proposed project would be served by a number of existing connections to SMUD's off-site 12 kV distribution systems. As discussed in Section 4.5, *Energy*, development in the project area, including the CNU Medical Campus, would demand approximately 132,263 megawatt-hours per year of electricity. SMUD has indicated that a new electrical substation would be required to meet this demand from development in the project area. Other electrical infrastructure (e.g., distribution lines) would also need to be constructed on-site.

The environmental impacts of construction in the project area are analyzed in other sections of this EIR, including Section 4.2, *Air Quality*; Section 4.3, *Biological Resources*; Section 4.4, *Cultural and Tribal Cultural Resources*; Section 4.8, *Noise and Vibration*; and Section 4.10, *Transportation and Circulation*. Given the urbanized nature of the adjacent area, it is unlikely that construction of any additional off-site electrical distribution system infrastructure would result in significant environmental impacts, as the improvements would occur within an existing street or right-of-way that has been previously disturbed. For these reasons, impacts of the proposed project related to the installation of electrical facilities would be **less than significant**.

Natural Gas

Natural gas, provided by PG&E, would be used for the primary uses of space heating and water heating by development undertaken as part of the proposed project. As discussed in Section 4.5, *Energy*, development in the project area would demand approximately 246,141 million British thermal units per year of natural gas. To meet this demand, additional natural gas infrastructure (e.g., distribution lines) would need to be constructed on-site.

The environmental impacts of construction in the project area are analyzed in other sections of this EIR, including Section 4.2, *Air Quality*; Section 4.3, *Biological Resources*; Section 4.4, *Cultural and Tribal Cultural Resources*; Section 4.8, *Noise and Vibration*; and Section 4.10, *Transportation and Circulation*. Given the urbanized nature of the adjacent area, it is unlikely that construction of any off-site improvements to existing natural gas infrastructure would result in significant environmental impacts, as the improvements would occur within an existing street or right-of-way that has been previously disturbed. For these reasons, impacts of the proposed project related to the installation of natural gas facilities would be **less than significant**.

CNU Medical Center

The CNU Medical Center would require electricity to power the hospital and the rest of the campus. Approximately 9MW of electricity would be required for the CNU Medical Center. This electricity would be provided by SMUD through proposed a proposed substation on the PUD site, and through infrastructure extensions. There would be no additional impacts associated with the proposed CNU Medical Center, compared to those associated with implementation of the proposed project as discussed above. As a result, the impacts of the CNU Medical Center related to installation of both electrical and natural gas facilities would be **less than significant**.

Mitigation Measure

None required.

Impact 4.11-14: Implementation of the proposed project would have the potential to require or result in the construction of new or expanded telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

Innovation Park PUD

New telecommunications infrastructure would be necessary to serve the technological needs of proposed development in the project area. The environmental impacts of construction in the project area are analyzed in other sections of this EIR, including Section 4.2, *Air Quality*; Section 4.3, *Biological Resources*; Section 4.4, *Cultural and Tribal Cultural Resources*; Section 4.8, *Noise and Vibration*; and Section 4.10, *Transportation and Circulation*.

Given the urbanized nature of the adjacent area, it is unlikely that construction of any off-site improvements to existing telecommunications infrastructure would result in significant environmental impacts, as the improvements would occur within an existing street or right-of-way that has been previously disturbed. For this reason, environmental impacts of the proposed project related to the installation of telecommunication facilities would be **less than significant**.

CNU Medical Center

There would be no unique or distinct differences or additional impacts associated with the proposed CNU Medical Center, compared to those associated with implementation of the proposed project as discussed above. For this reason, environmental impacts of the CNU Medical Center related to the installation of telecommunication facilities would be **less than significant**.

Mitigation Measure

None required.

Cumulative Impacts

The cumulative context for energy and telecommunications facilities storm drainage includes the service area covered by PG&E, SMUD, and the telecommunications providers.

Impact 4.11-15: Implementation of the proposed project, in combination with other development, would have the potential to require or result in the construction of new or expanded energy transmission or distribution facilities, the construction or relocation of which could cause significant environmental effects.

Innovation Park PUD

Future development under the 2035 General Plan would require the construction of new electrical and natural gas transmission and distribution facilities, as well as the extension of existing infrastructure, the construction of which could cause significant environmental effects. As discussed above, SMUD has indicated that a new electrical substation would be required to serve development in the project area. Additional electrical and natural gas infrastructure (e.g., distribution lines) would need to be constructed on-site as well.

The environmental impacts due to construction within the project area are analyzed in other sections of this EIR. In addition, given the urbanized nature of the adjacent area, it is unlikely that any off-site improvements to electrical and natural gas infrastructure that may be required would result in significant environmental impacts, as the improvements would occur within an existing street or right-of-way that has been previously disturbed. Therefore, the contribution of the proposed project to this impact would not be cumulatively considerable, and this cumulative impact would be **less than significant**.

CNU Medical Center

There would be no unique or distinct differences or additional impacts associated with the proposed CNU Medical Center, compared to those associated with implementation of the proposed project as discussed above. Therefore, the contribution of the proposed CNU Medical Center to this impact would not be cumulatively considerable, and this cumulative impact would be **less than significant**.

Mitigation Measure

None required.

Impact 4.11-16: Implementation of the proposed project, in combination with other development, would have the potential to require or result in the construction of new or expanded telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

Innovation Park PUD

Implementation of the 2035 General Plan would result in the need for expanded telephone and cable services and the subsequent construction of new telecommunications facilities. As discussed above, new telecommunications infrastructure would be necessary to serve the technological needs of proposed development in the project area.

The environmental impacts of construction in the project area are analyzed in other sections of this EIR. In addition, given the urbanized nature of the adjacent area, it is unlikely that any off-site

improvements to telecommunications infrastructure that may be required would result in significant environmental impacts, as the improvements would occur within an existing street or right-of-way that has been previously disturbed. Therefore, the contribution of the proposed project to this impact would not be cumulatively considerable, and this cumulative impact would be **less than significant**.

CNU Medical Center

There would be no unique or distinct differences or additional impacts associated with the proposed CNU Medical Center, compared to those associated with implementation of the proposed project as discussed above. As a result, the contribution of the proposed CNU Medical Center to this impact would not be cumulatively considerable, and this cumulative impact would be **less than significant**.

Mitigation Measure

None required.

CHAPTER 5
Other CEQA Considerations

5.1 Introduction

CEQA Guidelines Section 15126 requires that all phases of a project—planning, acquisition, development, and operation—be considered when evaluating the project's impact on the environment. Further, CEQA Guidelines Section 15126.2(a) requires that the evaluation of significant impacts consider direct and reasonably foreseeable indirect effects of the proposed project over the short term and long term.

Section 15126 of the CEQA Guidelines also requires an EIR to identify all of the following:

- Significant environmental effects of the proposed project.
- Potentially feasible mitigation measures proposed to avoid or substantially lessen significant effects.
- Significant environmental effects that cannot be avoided if the proposed project is implemented.
- Significant irreversible environmental changes that would result from implementation of the proposed project.
- Growth-inducing impacts of the proposed project.
- Alternatives to the proposed project.[1]

The Summary and Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, of this Draft EIR provide a comprehensive presentation of the proposed project's environmental effects, potentially feasible mitigation measures, and conclusions regarding the level of significance of each impact both before and after mitigation.

Chapter 6, *Project Alternatives*, presents a comparative analysis of alternatives to the proposed project.

The other CEQA-required analyses described above are presented below.

[1] CEQA Guidelines Sections 15126.2(a), 15126.2(c), 15126.2(d), 15126.2(e), 15126.4, and 15126.6.

5.2 Significant and Unavoidable Adverse Impacts

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. The environmental effects of the proposed Innovation Park PUD (referred to herein as the *proposed project*) on various aspects of the environment are discussed in detail in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*. Project-specific and cumulative impacts that cannot be avoided if the project is approved as proposed are identified below.

5.2.1 Project-Specific Significant and Unavoidable Impacts

Impact 4.2-2: Construction activities associated with development under the proposed project could result in a short-term emissions increase of NO_x, PM_{10}, and $PM_{2.5}$, for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

Impact 4.8-3: The increase in traffic associated with development allowed under the proposed project would increase roadside noise levels in the area.

Impact 4.8-4: Stationary sources and operational activities associated with development allowed under the proposed project would result in substantial permanent increases in ambient noise levels in the area.

Impact 4.8-5: Noise generated by helicopter landings and takeoffs at the helipad on the roof of the proposed CNU Medical Center's hospital would expose off-site residential land uses to single-event noise exposure levels that would awaken more than 5 percent of people from sleep.

5.2.2 Cumulative Significant and Unavoidable Impacts

Impact 4.2-5: Construction activities associated with development under the proposed project (including the CNU Medical Center) could contribute to cumulative increases in short-term emissions.

Impact 4.8-7: Construction activities associated with the proposed project, in combination with the construction of other cumulative development, could cause a substantial temporary or periodic increase in ambient noise levels in the area.

Impact 4.8-9: Traffic associated with the proposed project, in combination with traffic from other cumulative development, would increase roadside noise levels in the area.

5.3 Significant and Irreversible Environmental Changes

Under CEQA, an EIR must analyze the extent to which a project's primary and secondary effects would generally commit future generations to the allocation of nonrenewable resources and to

irreversible environmental damage (CEQA Guidelines Sections 15126.2(d) and 15127). Section 15126.2(d) states:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible, since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

The evaluation in this section addresses whether the proposed project would result in significant irreversible environmental changes if it would do any of the following:

- Involve a large commitment of nonrenewable resources.
- Result in primary or secondary impacts that would generally commit future generations to similar uses.
- Involve uses in which irreversible damage could result from any potential environmental accidents associated with the project.
- Result in consumption of resources that is not justified (e.g., involve the wasteful use of energy).

Each of these issues is discussed below for the proposed project.

5.3.1 Long-Term Commitment of Resources

Implementing the proposed project would result in the long-term commitment of resources to continued urban development. The Innovation Park PUD area (referred to herein as the *project area*) was originally converted from natural habitat to agricultural uses beginning around 1937. Most of the project area was later committed to urban uses, being developed as the site of Sleep Train Arena (formerly named "ARCO Arena" and "Power Balance Pavilion"), which began operation in 1988. Thus, the proposed project would maintain the commitment of the project area's land resources to urban development. In addition, project-related demolition and construction activities would result in the irretrievable commitment of construction materials (e.g., steel products, cement, glass).

5.3.2 Commitment of the Project Site for Future Generations

Development allowed under the proposed Innovation Park PUD would dedicate the project area to urbanized land uses, thereby precluding other uses for the life span of the proposed project, generally estimated to be for the foreseeable future. The most notable impacts would be increased generation of pollutants from vehicle travel and stationary operations, and the short-term commitment of nonrenewable and/or slowly renewable natural and energy resources, such as water resources, during construction activities. Natural features such as wetlands would also be lost. Operations associated with future uses would also consume natural gas and electrical energy.

The unavoidable consequences of the proposed project are described in the appropriate sections of Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*.

5.3.3 Irreversible Environmental Damage

The CEQA Guidelines also require a discussion of the potential for irreversible environmental damage caused by an accident associated with the proposed project. The proposed project could result in the use, transport, storage, and disposal of limited amounts of hazardous wastes during construction and operation; however, as described in Section 4.7, *Hazards and Hazardous Materials*, all activities would comply with applicable federal and state laws related to hazardous materials, significantly reducing the likelihood and severity of an accident that could result in irreversible environmental damage.

Over the past decade, the understanding of global climate change and the role that communities can play in addressing it has grown tremendously. There is a scientific consensus that recent increases in global temperatures are associated with corresponding increases of greenhouse gases (GHGs). This temperature increase is beginning to affect regional climates and is expected to result in impacts on the Sacramento region and the world. Climate change has profound implications for the availability of the natural resources on which economic prosperity and human development depend.

As discussed in detail in Section 4.6, *Global Climate Change*, GHG emissions are known to have long-term effects on atmospheric conditions that affect the global climate, with resultant changes in sea level and hydrologic conditions in rivers, heat island effects, and a range of other conditions. These changes are not considered irreversible, but they could last for generations. As described further in Section 4.6, the proposed project could result in short-term increases in GHG emissions. However, through the implementation of a GHG reduction plan, which would implement a selection of on- and off-site GHG reduction measures (see Section 4.6.4, Mitigation Measures 4.6.1 and 4.6.2), the proposed project would have a less-than-significant impact. As such, development allowed under the proposed project would not contribute considerably to global climate change and related irreversible environmental damage.

The most notable irreversible impacts would be increased generation of pollutants from vehicle travel and stationary operations and the short-term commitment of nonrenewable and/or slowly renewable natural and energy resources, such as water resources, during construction activities. Operations associated with future uses would also consume water, natural gas, and electrical energy. The unavoidable environmental consequences of the proposed project are described in the appropriate sections in Chapter 4, *Environmental Setting, Impacts, and Mitigation Measures*, and Section 5.2 above.

5.3.4 Unjustified Consumption of Resources

Resources that would be permanently and continually consumed by implementation of the proposed project include water, electricity, natural gas, and fossil fuels; however, the amount and rate of consumption of these resources would not result in the unnecessary, inefficient, or wasteful use of resources (see Section 4.5, *Energy Demand and Conservation*, and Section 4.11, *Utilities and*

Service Systems). The project's operational activities would comply with all applicable building codes, including the 2022 Title 24 Energy Efficiency Standards (which would be in effect by the time development applications for the project area could be approved), as well as mitigation measures, planning policies, and standard conservation features. Such compliance would ensure that natural resources are conserved to the maximum extent required under existing regulations.

It is possible that, over time, new technologies or systems will emerge, or will become more cost-effective or user-friendly, to further reduce reliance on nonrenewable natural resources. Nonetheless, construction activities for the proposed project would result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels (including fuel oil), natural gas, and gasoline for automobiles and construction equipment.

5.4 Growth-Inducing Effects

As stated in Section 15126.2(e) of the CEQA Guidelines, an EIR must discuss ways in which a proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Also, the EIR must discuss the characteristics of the project that could encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. Growth can be induced in a number of ways, such as through the elimination of obstacles to growth, through the stimulation of economic activity in the region, or through the establishment of policies or other precedents that directly or indirectly encourage additional growth.

The purpose of this section is to evaluate the potential growth-inducing effects on the city of Sacramento and the region of implementing the proposed Innovation Park PUD, including the CNU Medical Center. Additional analysis of the growth-inducing effects from the proposed project is provided in Chapter 3, *Land Use, Population, Employment, and Housing*.

In general, a project may foster spatial, economic, or population growth in a geographic area if the project removes an impediment to growth (e.g., establishes an essential public service; provides new physical or transportation access to an area; results in a change in zoning or approval of a general plan amendment), or if economic expansion or growth occurs in an area in response to the project (e.g., changes in revenue base, employment expansion). These circumstances are described further below.

- **Elimination of Obstacles to Growth:** The extent to which a proposed project removes infrastructure limitations, provides infrastructure capacity, or removes regulatory constraints that could result in growth unforeseen at the time of project approval.
- **Economic Effects:** The extent to which a proposed project could cause increased activity in the local or regional economy. Economic effects can include such effects as the multiplier effect. A *multiplier* is an economic term used to describe interrelationships among various sectors of the economy. The multiplier effect provides a quantitative description of the direct employment effect of a project, as well as indirect and induced employment growth. The multiplier effect acknowledges that the on-site employment and population growth of each project is not the complete picture of growth caused by the project.

5.4.1 Elimination of Obstacles to Growth

The elimination of physical obstacles to growth is considered a growth-inducing effect and one way a project may remove an impediment to growth would be through establishment of an essential public service. Here, the proposed project would involve construction and operation of a 400-bed regional medical center/teaching hospital in an approximately 35-acre portion of the project area. The proposed project would also provide staff housing for up to 200 faculty/staff and their families. The regional medical center would meet a current demand for hospital services in the Natomas area and the Sacramento region. Medical needs are considered essential services. The provision of a regional hospital could result in additional growth in the surrounding area. Operation of the proposed CNU Medical Center would require additional employees to serve the hospital/medical center, teaching hospital, and associated medical services.

The project area would be redeveloped in a built-out, urbanized area of Sacramento; however, some physical constraints to growth currently exist in the project vicinity. The primary growth obstacle in the project area is the limited capacity of the wastewater system serving the project area and surrounding area is the limited capacity of wastewater treatment facilities.

Implementing the proposed project would not eliminate the above-stated growth obstacles. The master-planned storm drainage system is designed to serve the eventual buildout of the North Natomas Community Plan (NNCP) area, and was not envisioned to serve new development areas outside of the NNCP area. Development of the planned system would progress in compliance with the NNCP.

The proposed project would increase development in the NNCP area, thereby increasing wastewater flows to the Sacramento Area Sewer District's separated sewer system, which would be conveyed to the Sacramento Regional County Sanitation District (Regional San) system, and ultimately treated in Regional San's wastewater treatment plant.

As described in Section 4.11, *Utilities and Service Systems*, the Regional San wastewater treatment plant currently has excess treatment capacity of approximately 46 million gallons per day, which would be available for a substantial portion of growth in the region. The improvements to the separated sewer system that are called for in the proposed project would support growth in the project area and would not extend services to areas not already served by the existing network of sewer infrastructure.

As stated earlier, the proposed project would generate employment for medical, quasi-medical, administrative, and associated jobs. The 2020 Sacramento Area Council of Governments (SACOG) Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) forecasts the addition of 81,365 new housing units and 146,053 new employees in the Established Communities community type by 2040.[2]

[2] Sacramento Area Council of Governments. 2019. *2020 Metropolitan Transportation Plan/Sustainable Communities Strategy.* Adopted November 18, 2019. Page 42.

The project area would be anticipated to develop to a lower development density than the level of development planned for and anticipated in the 2035 General Plan and would not induce growth beyond the growth planned for by the City, SACOG, and Regional San.

5.4.2 Economic Effects

As presented in Chapter 3, *Land Use, Population, Employment, and Housing*, under future conditions the commercial, office, and medical uses that may be developed as part of the proposed project may result in approximately 5,340 new jobs. This estimate includes the approximately 3,620 jobs anticipated with full development of the proposed CNU Medical Center, 350 employees associated with the CNU School of Medicine, and approximately 1,370 employees associated with retail and office uses.

In addition to the employment growth generated by the proposed project, additional local employment could be generated through what is commonly referred to as the *multiplier effect.* The multiplier effect refers to the secondary economic effects caused by spending from project-generated residents and employees. The multiplier effect tends to be greater in regions with larger diverse economies, given a decrease in the requirement to import goods and services from outside the region, as compared to the effects of spending in smaller economies where goods and services must be imported from elsewhere.

Two different types of additional employment are tracked through the multiplier effect. *Indirect employment* includes the additional jobs generated through residents' expenditure patterns and direct employment associated with the proposed project. For example, future residents and workers in the commercial uses and offices in the project area would spend money in the local economy, and the expenditure of that money would result in the creation of additional jobs. Indirect jobs tend to be relatively close to places of employment and residences.

The multiplier effect also calculates *induced employment*. Induced employment follows the economic effect of employment beyond the expenditures of employees in the project area to include jobs created by the stream of goods and services necessary to construct projects and support businesses in the project area. For example, when a manufacturer buys or sells products, the employment associated with those inputs or outputs is considered induced employment. As an additional example, when an employee who works in a nonresidential space developed under the proposed Innovation Park PUD goes out to lunch, the person who serves the employee lunch holds a job that was indirectly caused by the proposed Innovation Park PUD. When that server then goes out and spends money in the economy, the jobs generated by this third-tier effect are considered induced.

The multiplier effect also considers the secondary effect of employee expenditures. Thus, it includes the economic effect of the dollars spent by those employees who purchase goods and services in support of the jobs created by implementation of the proposed project.

Increased employment in the project area would support increased purchases of supplies, equipment, and services from businesses in Sacramento and nearby cities and from businesses located elsewhere in the region and beyond the Sacramento area. The increased spending also

would initiate subsequent rounds of additional business spending by those and other businesses. Increased employment in the project area would provide increased wage and salary incomes that would support additional household spending for a wide variety of goods and services.

Increased future employment generated by resident and employee spending ultimately results in physical development of space to accommodate those employees. The characteristics of this physical space and its specific location determine the type and magnitude of environmental impacts of this additional economic activity. Although the economic effect can be predicted, the actual environmental consequences of this type of economic growth are too speculative to predict or evaluate, because they can be spread throughout the Sacramento region and beyond. Some of the increased employee spending would occur near the project area and more of it would occur near employees' places of residence, many of which would be in Sacramento and nearby cities, and elsewhere in the Sacramento region. The additional employee spending would support business activity and jobs and initiate subsequent rounds of additional spending.

The future cumulative context of citywide and regional growth used for the cumulative analyses in the City of Sacramento's 2035 General Plan Master EIR and the cumulative analyses in SACOG's MTP/SCS EIR include the multiplier effects of the proposed growth in the Sacramento region. The proposed project would not facilitate growth beyond the growth assumptions included in the 2035 General Plan Master EIR and MTP/SCS. Consequently, the cumulative impact analyses in the 2035 General Plan Master EIR and the MTP/SCS EIR account for additional growth beyond the project area that would be generated by the proposed project.

5.4.3 Environmental Effects of Induced Growth

While economic and employment growth in the project area is the intended consequence of the proposed project, growth induced directly and indirectly by the proposed project could also affect the greater Sacramento region. Potential effects caused by induced growth in the region could include: increased traffic congestion; increased air pollutant emissions; loss of agricultural land and open space; loss of habitat and associated flora and fauna; increased demand on public utilities and services, such as fire and police protection, water, recycled water, wastewater, solid waste, energy, and natural gas; and increased demand for housing.

Specifically, an increase in housing demand in the greater Sacramento region could cause significant environmental effects because new residential development would require governmental services, such as schools, libraries, and parks. Indirect and induced employment and population growth would further contribute to the loss of open space because it would encourage conversion to urban uses for housing, commercial space, and infrastructure.

The proposed project would contribute to direct, indirect, and induced growth in the region. However, it is not anticipated that growth induced by the proposed project would be of sufficient size to substantially increase demand for development in the region, to the extent that such demand would lead to significant environmental effects. For these reasons, this impact would be less than significant.

5.5 Urban Decay

5.5.1 Economic and Social Effects

Under CEQA, economic or social effects are not considered significant effects on the environment. Rather, these effects are considered in the context of their potential linkage or indirect connections between the proposed project and physical environmental effects. More specifically, the direction for treatment of economic and social effects is stated in Section 15131(a) of the CEQA Guidelines:

> Economic or social effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on physical changes.

A social or economic change also may be considered in determining whether the physical change is significant (CEQA Guidelines Section 15382).

5.5.2 Urban Decay

As used in CEQA, the term *urban decay* was introduced by the California Court of Appeal in the case entitled *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184 (*Bakersfield Citizens*). In that decision, the court required the City of Bakersfield to revise and recirculate two EIRs for two proposed Wal-Mart stores because the documents both failed to address the possible indirect physical effects flowing from the direct economic effects of the two projects. Although the court did not expressly define urban decay, the court seemed to equate the concept with a "chain reaction of store closures and long-term vacancies, ultimately destroying existing neighborhoods and leaving decaying shells in their wake."[3]

For the purposes of this assessment and consistent with the above-described court decision, *urban decay* is not simply a condition in which buildings become vacant as businesses compete with each other in the normal course of the market-based economy, nor is it a condition where a building may be vacated by one business or use and reused by a different business or for alternative purposes. Rather, under CEQA and for the purposes of analysis in this EIR, urban decay is defined as a physical deterioration of properties or structures that is so prevalent, substantial, and lasting a significant period of time, that it impairs the proper use of the properties and structures, and the health, safety, and welfare of the surrounding community. Physical deterioration includes abnormally high business vacancies, abandoned buildings, boarded doors and windows, long-term unauthorized use of the properties and parking lots, extensive or offensive graffiti painted on buildings, dumping of refuse or overturned dumpsters on properties, dead trees and shrubbery, and uncontrolled weed growth.

[3] City of Bakersfield. 2004. *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184. Page 1204.

Prolonged business vacancies that could result in urban decay generally result from a lack of sufficient demand for commercial goods or services in a market area. Under these conditions, there is insufficient demand for the provision of goods or services to support the existing inventory of developed commercial space in a market area. In any market area, a small percentage of commercial vacancy is common and is considered a natural part of the market economy. In most market areas, the vacant or partially occupied commercial spaces are regularly maintained, as vacancies are assumed to be temporary and building owners have an economic incentive to maintain their property to make it more attractive for future tenants. Urban decay conditions can potentially occur in market areas where a large, persistent deficit in the demand for commercial services exists, relative to the available inventory of commercial space.

At present, the retail environment in the city of Sacramento does not exhibit conditions that would be conducive to urban decay. While some retail spaces may become or remain vacant, such properties are generally maintained to attract new tenants or become reused for nonretail purposes. Many aged retail properties throughout the region have undergone renovation, increasing the value and occupancy of those properties and adding to the stability of the city's retail environment as a whole.

As it pertains to restaurant and retail uses, as are anticipated in development pursuant to the proposed Innovation Park PUD, the existing restaurant and retail uses in a market area constitute the *supply*, which is the necessary volume of goods and services that must be sold for those businesses to meet operating costs. The demand for goods and services by retail and restaurant consumers in a market area constitutes the customers' *spending potential*. Healthy economic conditions in a market area occur when spending potential exceeds the supply of goods and services. If the supply in that market area exceeds the spending potential, commercial establishments become strained. Under those conditions, consumers in a market area do not have enough demand for goods and services to meet the supply of the businesses in that market area. It is anticipated that existing businesses can absorb a small percentage of excess supply. However, periods of severe and/or prolonged excess supply result in business closures in an affected market area and ensuing commercial space vacancies. Under most conditions, business closures result in temporary vacancies that are eventually filled by similar new or alternative uses. Under more severe conditions, market forces create persistent vacancies where the demand for commercial space is well below the available inventory of commercial space, creating focused prolonged vacancies, property repossessions, and declining maintenance of those properties. These types of conditions are contributing factors to the occurrence of urban decay.

Analysis of a proposed project's contribution to urban decay evaluates the project's impact on the existing market area, to determine whether the additional supply introduced by the commercial land uses in a proposed project would increase the total market area supply, to the extent that it would result in the types of conditions under which urban decay could be anticipated to occur or already is occurring. For this reason, analysis of urban decay takes into consideration conditions in the existing market area, the characteristics of the market area, and the impacts of the proposed project.

Existing Market Area

The conditions that were present in the *Bakersfield Citizens* case are distinguishable from the conditions related to the proposed project. In the former, two proposed Wal-Mart stores were proposed, and the question of urban decay related to the potential adverse effect of additional retail supply on existing retail stores in the same market area. In the case of the *Bakersfield Citizens* case, a defining characteristic of the market area is that the Bakersfield market area, while sizeable, is bound by agricultural, rural, or undeveloped land uses on all sides. The market area's discrete geographic nature limited its retail spending potential.

The conditions under which the proposed project would be constructed are much different. The project area is set within the vast urbanized Sacramento area, which exhibits overlapping market connectivity with eastern portions of the San Francisco Bay Area to the southwest and the Stockton metropolitan area to the south, as well as smaller communities to the north and other directions. Within this environment, market areas for various types of retail vary by product or service type, each subject to the farthest anticipated distance that consumers are willing to travel for those particular goods or services, while such goods or services are commonly available beyond those distances. Under these conditions, numerous markets for particular goods or services can exist within the region. Consumers are typically less willing to travel long distances to obtain goods or services from neighborhood-serving retail establishments, such as grocery stores, but they typically have a greater willingness to travel for specialty goods or services. For these reasons, the distribution of specific types of retailers is commensurate to the size of the market area for the goods or services they provide. Smaller market areas will only allow a certain number of businesses providing particular goods or services before exceeding the retail spending potential for that market area. Specialty goods or services, having larger market areas, have greater flexibility to respond to changes in the market, including the introduction of new retail supply. The larger market area provides flexibility and a decreased likelihood that individual retail projects would have a substantial impact on the overall market area.

Project Impact

The proposed project would add approximately 50,000 square feet of commercial uses, including a continuation of the commercial pattern that provides both community commercial uses and transit commercial uses focused along active areas and transit corridors. The North Natomas area is a rapidly growing part of Sacramento with existing and planned or proposed retail and restaurants and other neighborhood-serving land uses. Major corridors such as Arena Boulevard, Del Paso Road, East Commerce Way, and Truxel Road already have a myriad of neighborhood-serving retail, restaurants, and other commercial uses. Existing and future demands for such retail and other complementary uses to the proposed project are not in conflict with the current demand in the North Natomas area.

The proposed project includes retail and commercial uses that would be based on existing market-driven demand and would be anticipated to serve surrounding growth in the North Natomas area, including other developments along Arena Boulevard, East Commerce Way, Del Paso Road, Truxel Road, and the Interstate 80 (I-80) corridor. It would likely encourage other neighborhood-serving retail and restaurant uses to serve the users who reside and work in the North Natomas area.

The proposed Innovation Park PUD, including the regional CNU Medical Center, anticipates a proportionate growth in commercial/office uses that would supplement the existing supply of such land uses and further support the proposed Innovation Park PUD. Medical or hospital supportive services, such as specialty niche medical technological services, pharmacy, medical testing laboratories, and other related uses, are likely to develop in the area. Such commercial/office uses associated with medical offices would be positioned to serve a mixed-use mid-rise community, with intermingled residential uses. These uses would not be anticipated to compete with larger format commercial uses near Truxel Road and I-80.

The local retail, restaurants, and commercial market share would experience growth with the potential for additional revenues from future employees from the proposed project, and future residents of the project area would be served well with the neighborhood retail services. These future employees and residents may be from the North Natomas area or may relocate for employment and living opportunities associated with the proposed project.

As described above, it is not anticipated that the proposed project's commercial space would have a substantial impact on existing commercial land uses in the area surrounding the Sleep Train Arena building. Existing and proposed North Natomas retail businesses would not experience any prolonged closure on account of the proposed Innovation Park PUD. Any closures and ensuing commercial vacancies that may result from competitive market pressures would be anticipated to be temporary and would eventually be filled by other retail or restaurant uses, or by other commercial uses that would be compatible with available space. Therefore, the City does not anticipate that the proposed project would result in conditions that would contribute to or cause urban decay.

CHAPTER 6
Project Alternatives

6.1 Overview

Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15126.6, this environmental impact report (EIR) must describe a range of reasonable alternatives to the proposed project that might feasibly accomplish most of the basic objectives of the proposed project and avoid or substantially lessen one or more of the significant effects of the project. The feasibility of an alternative is determined by the lead agency based on a variety of factors including but not limited to site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and site accessibility and control (CEQA Guidelines Section 15126.6(f)(1)).

The chapter discloses the comparative effects of each of the alternatives relative to the two project components, the Innovation Park Planned Unit Development (Innovation Park PUD) and the California Northstate University Medical Center (CNU Medical Center), and evaluates the relationship of the alternatives to the objectives of each component. As required under Section 15126.6(e) of the CEQA Guidelines, an environmentally superior alternative for the proposed Innovation Park PUD is identified at the end of this chapter.

6.2 Factors in the Selection of Alternatives

6.2.1 Project Objectives

The overall goal of the proposed Innovation Park PUD is the orderly and systematic development of the Innovation Park PUD area that is compatible with site characteristics and consistent with the City of Sacramento's (City's) goals and policies. More specifically, the objectives of the proposed Innovation Park PUD are as follows:

1. Transform and redevelop the prior Sleep Train Arena site from an underutilized sports complex into a vibrant innovation district focused on health, education, and living with a mix of uses that enhances the fabric of North Natomas and the region.

2. Provide policy and design guidance for new development that is compatible with and well-integrated within the existing community.

3. Provide synergistic connections between medical office, residential, and commercial development within and surrounding Innovation Park.

4. Develop a mixed-use environment that provides residents with the opportunity to live, work, and play within Innovation Park.

5. Provide a range of housing types and densities, including but not limited to step-up housing, to meet the varied needs and preferences of those who will work both in the Plan Area and the greater region.

6. Provide an urban-core adjacent environment that prioritizes multimodal transportation including pedestrian, bicycles, and vehicles through a centralized complete street framework.

7. Integrate a combination of proximal uses, including commercial, education, employment, residential, and other use opportunities and services.

8. Support the integration of the locally preferred route of the Sacramento Regional Transit District (SacRT) Green Line light rail line.

9. Create a flexible entitlement structure to provide for more cost efficient housing and the ability to respond to future job and market opportunities.

10. Promote environmental sustainability through the use of green building technology, water conservation, renewable energy resources, active transportation options, or other community innovations.

11. Provide diverse and engaging urban open space opportunities suitable for the urban context.

The overall goal of the proposed CNU Medical Center is the development and operation of a teaching hospital and medical campus in North Natomas. More specifically, the objectives of the proposed CNU Medical Center at Innovation Park are as follows:

1. Offer innovative, high-quality health care for patients residing in the Natomas Area and northern Sacramento County.

2. Develop a teaching hospital in close proximity to the California Northstate University (CNU) campus to provide training opportunities and accommodation for its students.

3. Promote new, highly accessible, and innovative care models by designing facilities to incorporate the most advanced techniques available for diagnosis and treatment.

4. Provide trauma services (planned Level II after certification) to respond to mass casualty incidences and other emergency response needs of the City and region, and to provide for healthcare and emergency services along the Interstate 5 and Interstate 80 corridors.

5. Develop an integrated university campus to accommodate all current and planned colleges within CNU, designed to create a distinct campus identity through the use of consistent materials and colors, pedestrian-friendly circulation, and attractive site features such as open space and other amenities for staff and community members.

6. Provide for clinical laboratory and pharmaceutical research and development facilities to support the medical mission of CNU.

7. Provide for student, faculty, and senior housing to service the CNU community.

8. Accommodate helicopter access directly to the facility and design helistop facilities in accordance with the following objectives:

    a. Lessen significant impacts on the surrounding community.

    b. Locate the helistop to meet the functional needs of the hospital.

    c. Comply with all applicable regulatory and life safety requirements for helistops and helicopter travel, including but not limited to Federal Aviation Administration (FAA) requirements for flight path obstruction clearance.

    d. Locate the helistop on a site where access is controlled, to ensure public safety during helicopter landings and take-offs.

    e. Construct a visually unobtrusive helistop, integrating into the design of the hospital building.

9. Provide economic stimulus for the City of Sacramento and the surrounding region by creating high paying jobs that will have a multiplier effect on regional economic growth.

10. Develop a staff- and patient-friendly hospital with a convenient location, available parking, and efficient patient and emergency access in close proximity to amenities and patient services.

6.2.2 Significant Effects of the Proposed Project

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. The environmental effects of the proposed Innovation Park PUD and CNU Medical Center on various aspects of the environment are discussed in detail in Chapter 4, *Environmental Impacts, Setting, and Mitigation Measures*. The project-specific and cumulative impacts that cannot be avoided if the proposed Innovation Park PUD and CNU Medical Center are approved as proposed are listed below.

Project-Specific Significant and Unavoidable Impacts

Impact 4.2-2: Construction activities associated with development under the proposed project could result in a short-term emissions increase of NO_x, PM_{10}, and $PM_{2.5}$, for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

Impact 4.8-3: The increase in traffic associated with development allowed under the proposed project would increase roadside noise levels in the area.

Impact 4.8-4: Stationary sources and operational activities associated with development allowed under the proposed project would result in substantial permanent increases in ambient noise levels in the area.

Impact 4.8-5: Noise generated by helicopter landings and takeoffs at the helipad on the roof of the proposed CNU Medical Center's hospital would expose off-site residential land uses to single-event noise exposure levels that would awaken more than 5 percent of people from sleep.

Cumulative Significant and Unavoidable Impacts

Impact 4.2-5: Construction activities associated with development under the proposed project (including the CNU Medical Center) could contribute to cumulative increases in short-term emissions.

Impact 4.8-7: Construction activities associated with the proposed project, in combination with the construction of other cumulative development, could cause a substantial temporary or periodic increase in ambient noise levels in the area.

Impact 4.8-9: Traffic associated with the proposed project, in combination with traffic from other cumulative development, would increase roadside noise levels in the area.

6.3 Alternatives Considered but Dismissed from Further Evaluation

In identifying alternatives to the proposed Innovation Park PUD, including the proposed CNU Medical Center, primary consideration was given to alternatives that could reduce significant unavoidable impacts resulting from development that would be allowed under the proposed Innovation Park PUD while still achieving the basic objectives of the proposed project. Certain impacts that are identified as being significant and unavoidable under the proposed project (e.g., increase in noise levels from project construction and operation) would be due primarily to redeveloping an underdeveloped and now-vacant site. These impacts would not be eliminated, but could be reduced, for example, by limiting the scale of development allowed under the proposed Innovation Park PUD, reconfiguring uses, or implementing specific measures. Alternatives that would reduce the intensity of development allowed under the proposed project are addressed later in this chapter.

Section 15126.6(c) of the CEQA Guidelines requires the City to disclose alternatives that were considered but rejected from further analysis in this Draft EIR and provide the rationale for dismissal of those alternatives.

6.3.1 Alternate Land Uses

Development of a special-events center, amusement park, or major visitor-serving use, such as a zoo, would not meet the basic objectives of the proposed project. Several project objectives point to the development of a medical center and surrounding medical-supportive uses. Further, development of these types of uses would not support the creation of an urban-core adjacent environment that prioritizes, promotes, and facilitates multimodal transportation including pedestrians, bicycles, and vehicles. Such a use would not provide a natural connection between uses on the project site. Further, other impacts such as odors, crowd noise, traffic queueing, or other effects could occur as a result of an alternate land use. Therefore, development of a special-events center, amusement park, or major tourist attraction was rejected and is not considered further here.

6.3.2 Full Preservation of Freshwater Emergent Wetland

There is a 6.8-acre freshwater emergent wetland in the northeast portion of the Innovation Park PUD area. In the late 1980s, during initial development of the previously planned baseball field and stadium in the Innovation Park PUD area, an area intended to be the baseball field was excavated. Before the site was excavated, the area supported annual grassland habitat. A dewatering system was constructed to ensure that the excavated site remained dry, and based on review of historic aerial photographs, was operated consistently through 2011. Since that time, this excavated area has filled with water, resulting in the creation of a variety of habitat types, including valley-foothill riparian woodland, pond (lacustrine), and freshwater emergent wetland. As described in Section 4.3, *Biological Resources*, freshwater emergent wetland vegetation occurs scattered throughout the excavated area, predominantly along the lower banks. Broad-leaved cattail (*Typha latifolia*) is the dominant species in the freshwater emergent wetland. Because of the mosaic nature of this habitat, the valley-foothill riparian woodland, lacustrine, and freshwater emergent wetlands are mapped collectively in Figures 4.3-1 and 4.3-2 in Section 4.3.

Preserving all of the freshwater emergent wetland habitat within the Innovation Park PUD area would require a redesign of the proposed project to avoid not only the wetland, but a buffer surrounding the wetland. As a result, the proposed roadway network would need to be significantly realigned to avoid the resource. B Street would need to be shifted to the south to avoid the wetland. This change to the backbone roadway infrastructure within the Innovation Park PUD area would result in a change to how B Street could connect to East Entrance Road, resulting in a staggered intersection, or in not forming an intersection at all. A disconnected roadway infrastructure could result in unsafe roadway conditions, and would not allow for the orderly extension of other utility infrastructure such as water and sewer lines.

Further, preservation of the wetland in its current condition would require that the existing, partially constructed baseball stadium foundation be left in place. This is a potentially hazardous situation, as the area could be accessible to the public. Removal of the existing baseball stadium foundation would result in the demolition and removal of concrete, rebar, pilings, and other structural elements that form substantial portions of the west and south edges of the wetland feature. Removing the foundation would disturb the freshwater emergent wetland habitat, and could result in the potential dewatering of the area for demolition and materials removal, potential significant disturbance or removal of habitat and/or species, and potential detrimental effects on the remaining ecological quality of the site.

For these reasons, full preservation of the existing freshwater emergent wetland was rejected and is not considered further here.

6.4 Alternatives Selected for Further Consideration

This section describes the range of alternatives to the proposed project that are analyzed in this Draft EIR and examines how specific environmental impacts would differ in severity compared to those associated with the proposed project. For the most part, significant impacts of the alternatives can be mitigated to less-than-significant levels through adoption of the mitigation

measures identified in Chapter 4, which contains the environmental analysis of the proposed project. To varying degrees, the following alternatives would also avoid and/or lessen impacts, including some or all of the significant and unavoidable impacts, of the proposed project. The following alternatives are considered in this section:

- Alternative 1: No Project/No Development Alternative
- Alternative 2: No Project/Existing General Plan
- Alternative 3: Smaller Footprint
- Alternative 4: Different Land Use Mix

CEQA requires consideration of the No Project Alternative, which addresses the impacts of not moving forward with the proposed project. The No Project Alternative can take many forms, including doing nothing, depending on what may likely occur if a project is not developed. In the case of the proposed project, two "No Project" alternatives are considered: (1) not developing the Innovation Park PUD area and leaving the Sleep Train Arena building and adjacent former Sacramento Kings practice facility vacant (Alternative 1), and (2) developing the site under the Sacramento 2035 General Plan's (2035 General Plan or General Plan) existing Urban Center High land use designation (Alternative 2).

6.4.1 Alternative 1: No Project/No Development Alternative

Description

Under Alternative 1, the No Project/No Development Alternative, the City would not approve any project within the Innovation Park PUD area. Development allowed under the proposed Innovation Park PUD would not be developed, and the Innovation Park PUD area, including the CNU Medical Center site, would remain in its current condition. The existing Sleep Train Arena building and adjacent former Sacramento Kings practice facility would remain on the site subject to the same use restrictions that exist today. The asphalt parking lot surrounding the arena would remain, and existing landscaping and open areas would remain in their current condition.

Comparative Analysis of Environmental Effects

In general, the effects of the No Project/No Development Alternative would be a continuation of the existing conditions described in the Environmental Setting presented in the resource sections of Chapter 4, because no new development would occur within the Innovation Park PUD area, including the CNU Medical Center site.

Impacts Identified as Being the Same as or Similar to Those of the Proposed Project

Because there would be no construction under this alternative and no changes to the operation of land uses within the Innovation Park PUD area, including the CNU Medical Center site, none of the impacts identified for development allowed under the proposed Innovation Park PUD would occur under the No Project/No Development Alternative.

Impacts Identified as Being Less Severe than Those of the Proposed Project

Under Alternative 1, no demolition would occur and no new development would be constructed, so no impacts associated with construction would occur. Those include construction air quality emissions (Impacts 4.2-2, 4.2-4, and 4.2-5), disturbance to potential foraging habitat for Swainson's hawk, potential loss of nesting habitat for special-status bird species, or special-status bat species (Impacts 4.3-1, 4.3-2, 4.3-3, 4.3-10, and 4.3-11), loss of special-status plant species or protected trees (Impacts 4.3-4, 4.3-8, 4.3-12, and 4.3-15), loss of wetlands or other waters of the United States and riparian habitat (Impacts 4.3-5, 4.3-6, and 4.3-13), interference with the movement of resident or migratory fish or wildlife species or impediment to the use of native wildlife nursery sites (Impacts 4.3-7 and 4.3-14), damage to historic, archaeological, and tribal cultural resources (Impacts 4.4-1 through 4.4-4), wasteful, inefficient, and/or unnecessary use of energy (Impacts 4.5-1 and 4.5-2), construction noise and vibration (Impacts 4.8-1, 4.8-2, 4.8-6, and 4.8-7), and construction-related disruptions to the transportation network (Impacts 4.10-7, 4.10-14, and 4.10-21).

Because there would be no new development, including no development on the CNU Medical Center site, the No Project/No Development Alternative would not increase the amount of lighting in the project area (Impact 4.1-2), increase emissions of toxic air contaminants (Impact 4.2-7), generate greenhouse gas (GHG) emissions or conflict with an applicable GHG plan (Impacts 4.6-1, 4.6-2, and 4.6-3), increase roadside noise (Impacts 4.8-3 and 4.8-8), increase ambient noise levels (Impacts 4.8-4 and 4.8-9), result in helicopter noise impacts (Impact 4.8-5), increase the demand for parks and recreational resources and facilities (Impacts 4.9-7 and 4.9-8), increase traffic volume and delay (Impacts 4.10-1, 4.10-2, 4.10-3, 4.10-8, 4.10-9, 4.10-10, 4.10-15, 4.10-16, and 4.10-17), result in inadequate access to transit and pedestrian facilities (Impacts 4.10-4, 4.10-5, 4.10-11, 4.10-12, 4.10-18, and 4.10-19), or increase the cumulative demand for water supplies (Impact 4.11-3).

For these reasons, impacts under the No Project/No Development Alternative would be less severe than under the proposed Innovation Park PUD.

Impacts Identified as Being More Severe than Those of the Proposed Project

Under the No Project/No Development Alternative, potential effects on the existing visual character and quality of public views of the site could be greater. Because development would not occur, continued non-operation of the Innovation Park PUD area could result in physical and visual deterioration of the buildings over time. Further, as described below and in Chapter 3, the Innovation Park PUD area is designated Urban Center High in the City's 2035 General Plan, a designation that envisions dense urban development, including housing and other mixed urban uses. Failure to develop the area as described under Alternative 1 would fail to implement the General Plan's vision for the site. In addition, if the approximately 185-acre site were to be left undeveloped, an important opportunity for infill development in close proximity to the core of the Sacramento region would be forgone. For the region to achieve its Regional Housing Needs Allocation, additional housing would need to be constructed, potentially at locations farther from the core, with corresponding increases in vehicle miles traveled (VMT) and associated emissions of criteria air pollutants and GHG emissions. Although difficult to quantify, these secondary

environmental impacts could be significant and would be more severe than the impacts of the proposed project.

Relationship to Significant and Unavoidable Impacts

Under the No Project/No Development Alternative, the proposed Innovation Park PUD, including the CNU Medical Center, would not be constructed. Therefore, the significant and unavoidable impacts of the proposed project would be avoided under Alternative 1. However, as noted above, the secondary effects of Alternative 1 could result in different significant and unavoidable impacts than those of the proposed project, including significant levels of VMT and associated criteria air pollutant and GHG emissions.

Relationship to Plan Objectives

Under the No Project/No Development Alternative, none of the project objectives for the proposed Innovation Park PUD or the CNU Medical Center would be achieved.

6.4.2 Alternative 2: No Project/Existing General Plan

Description

Under Alternative 2, the No Project/Existing General Plan Alternative, the Innovation Park PUD area, including the CNU Medical Center site, would be developed under the General Plan's existing Urban Center High land use designation, which permits a residential density of 24–250 units per acre, and a development intensity of 0.5 to 8.0 floor area ratio (FAR). However, under the current zoning designation of SPX Zone – Sports Complex Zone, no residential development would be permitted on the project site. Therefore, a rezone for the project site would be required in order for this alternative to be implemented.

Under this alternative, the density and intensity of development within the Innovation Park PUD area would be doubled compared to the proposed project (see Table 2-1), with densities ranging from 40 to 100 units per acre and intensities ranging from 0.8 to 1.4 FAR. The CNU Medical Center would not be constructed under this alternative, as it is not an anticipated or allowable use under the existing project site zoning (SPX Zone). The existing freshwater emergent wetland would be removed and developed, in contrast with the partial retention of that area under the proposed project. As shown in **Table 6-1**, Alternative 2 would provide up to approximately 4,031 dwelling units and about 2.3 million square feet (sf) of nonresidential space at buildout. This buildout is compared to the proposed project, which would result in approximately 3,071 residential units and approximately 4,149,400 sf of nonresidential square footage (see Table 2-1).

TABLE 6-1
DEVELOPMENT ASSUMPTIONS FOR
ALTERNATIVE 2: NO PROJECT/EXISTING GENERAL PLAN

Parcel	Approximate Gross Land Area in Acres	Land Use	Approximate Net Land Area in Acres	Net Residential Acres	Net Nonresidential Acres	Density (du/ac)	FAR	Units	Gross Floor Area (sf)
A	11.1	Commercial	9.3		9.3		1.4		567,151
B	41.0	Commercial	30.1		30.1		1.2		1,573,387
C	13.8	Mixed-Use Commercial/ Residential	12.6	6.3	6.3	70	0.8	441	219,542
D, D-1	46.0	Residential	34.5	34.5		40		1,380	
E, E-1 through E-4	31.7	Residential	22.1	22.1		100		2,210	
Right-of-Way	40.2	Major Streets							
Total	183.8		108.6	62.9	45.7			Up to 4,031	Up to 2,360,081
Total Development Area			108.6 acres						
Total Roads/Open Space/Other			75.2 acres						
% NDA/Total Land Area			59%						

SOURCE: SBH Natomas LLC, 2018; data compiled by Environmental Science Associates in 2021

Comparative Analysis of Environmental Effects

Impacts Identified as Being the Same as or Similar to Those of the Proposed Project

Because the No Project/Existing General Plan Alternative would develop the same total area, impacts determined by the development footprint of future projects would be substantially the same as the proposed project. These impacts would include disturbance to potential foraging habitat for Swainson's hawk, potential nesting habitat for special-status bird species, or special-status bat species (Impacts 4.3-1, 4.3-2, 4.3-3, 4.3-10, and 4.3-11), loss of special-status plant species or protected trees (Impacts 4.3-4, 4.3-8, 4.3-12, and 4.3-15), and damage to historic, archaeological, and tribal cultural resources (Impacts 4.4-1 through 4.4-4). Operational impacts, such as VMT per capita (Impact 4.10-1), would be largely the same as the proposed project because a mix of uses would be developed.

Impacts Identified as Being Less Severe than Those of the Proposed Project

Development under the No Project/Existing General Plan Alternative would be greater than under the proposed project, therefore none of the impacts under this alternative would be anticipated to be less severe than impacts that would occur under the proposed project.

Impacts Identified as Being More Severe than Those of the Proposed Project

The No Project/Existing General Plan Alternative would increase the number of dwelling units by approximately 1,000 compared to the proposed project. However, the nonresidential square

footage under this alternative would be approximately 2,000,000 sf less than the proposed project. This would result in more intense construction impacts including construction emissions (Impacts 4.2-2, 4.2-4, and 4.2-5), wasteful, inefficient, and/or unnecessary use of energy (Impacts 4.5-1 and 4.5-2), construction noise and vibration (Impacts 4.8-1, 4.8-2, 4.8-6, and 4.8-7), and construction-related disruptions to the transportation network (Impacts 4.10-7, 4.10-14, and 4.10-21). However, insofar as these impacts would result from implosion or demolition of the Sleep Train Arena, they would remain the same. Because the entire existing on-site freshwater emergent wetland would be filled, the loss of wetlands or other waters of the United States and riparian habitat (Impacts 4.3-5, 4.3-6, and 4.3-13) and interference with the movement of resident or migratory fish or wildlife species or impediment to the use of native wildlife nursery sites (Impacts 4.3-7 and 4.3-14) would be greater than under the proposed project.

Operational impacts would also be more intense because Alternative 2 would result in more commuting employees and a higher density of buildings. This would increase the amount of lighting in the project area (Impact 4.1-2), increase emissions of toxic air contaminants (Impact 4.2-7), increase the generation of GHG emissions and conflicts with an applicable GHG plan (Impacts 4.6-1, 4.6-2, and 4.6-3), increase roadside noise (Impacts 4.8-3 and 4.8-8), increase ambient noise levels (Impacts 4.8-4 and 4.8-9), increase the demand for parks and recreational resources and facilities (Impact 4.9-7 and 4.9-8), increase traffic volume, delay, and VMT (Impacts 4.10-1, 4.10-2, 4.10-3, 4.10-8, 4.10-9, 4.10-10, 4.10-15, 4.10-16, and 4.10-17), result in inadequate access to transit and pedestrian facilities (Impacts 4.10-4, 4.10-5, 4.10-11, 4.10-12, 4.10-18, and 4.10-19), and increase the cumulative demand for water supplies (Impact 4.11-3). However, impacts related to operational traffic, including roadside noise, emissions of toxic air contaminants, and GHG emissions from mobile sources, under cumulative conditions would be similar as light rail service is anticipated to be extended near the Innovation Park PUD area in the future, which would reduce the amount of vehicle trips to and from the area.

Relationship to Significant and Unavoidable Impacts

Implementation of Alternative 2 would not reduce the severity of significant and unavoidable impacts from the proposed Innovation Park PUD. Because the No Project/Existing General Plan Alternative would increase the number of dwelling units, but reduce the nonresidential square footage compared to the proposed Innovation Park PUD, significant and unavoidable impacts would be greater, although significant and unavoidable impacts related to operational traffic and roadside noise under cumulative conditions would not be as high due to the expansion of light rail service in the future. Significant and unavoidable air quality impacts related to possible implosion of the Sleep Train Arena would also remain the same.

Relationship to Plan Objectives

Development under the No Project/Existing General Plan Alternative could achieve nearly all of the project objectives for the Innovation Park PUD. Alternative 2 would develop the PUD area from an underutilized sports complex into a high-density, mixed-use development which would combine commercial, employment, and residential uses (Objectives 1, 2, 4 and 5). Next, the mix of uses allowed under Alternative 2 would allow more future residents with the Innovation Park PUD area to live and work in North Natomas than under the proposed Innovation Park PUD

(Objective 3). This greater population in turn would better support proposed future anticipated SacRT Green Line light rail line in Truxel Road that would serve the area (Objective 8). Finally, similar types of land uses would be allowed under Alternative 2, thus allowing the owner to respond to future market conditions (Objective 9), and buildings within the Innovation Park PUD area under this alternative would be constructed in accordance with Title 24 energy standards (Objective 10).

Under Alternative 2 none of the objectives for the CNU Medical Center would be achieved because a medical center would not be constructed under this alternative.

6.4.3 Alternative 3: Smaller Footprint

Description

Under the Smaller Footprint Alternative (Alternative 3), the entirety of Parcel B would be set aside as open space to preserve the water feature and riparian habitat, including the black-crowned night heron and cattle egret rookery, that has developed within the partially constructed baseball field and stadium. The foundation of the partially constructed baseball field and stadium would remain under this alternative and the land to the north/northeast of the water feature and riparian habitat would be converted to native grassland and available to serve as foraging habitat. As a result of the preservation of Parcel B as habitat and open space, the nonresidential uses planned for Parcel B under the proposed project would shift to Parcel E under Alternative 3. However, as Parcel E is approximately 20 percent smaller than Parcel B, not all of the nonresidential square footage planned for Parcel B under the proposed project could be accommodated on Parcel E. The residential units planned on Parcel E under the proposed project would be eliminated under Alternative 3.

Under this alternative, approximately a quarter of the residential units anticipated under the proposed project would be constructed (see Table 2-1). Approximately 78 percent of the nonresidential square footage anticipated under the proposed project would be constructed under Alternative 3. As shown in **Table 6-2**, Alternative 3 would provide up to approximately 821 dwelling units and about 3,234,543 sf of nonresidential space at buildout, as compared to approximately 3,071 residential units and approximately 4,149,400 sf of nonresidential square footage under the proposed project.

Under Alternative 3, a smaller version of the CNU Medical Center would be constructed on Parcels D and D-1. The height of the hospital building would be reduced to approximately 165 feet (eight stories) and would consist of 280 patient beds at buildout (the project proposes 420 beds). The reduction in building height would result in a reduction in hospital building square footage. The on-site helistop would be eliminated from the CNU Medical Center, and helicopter service would be provided at Sacramento International Airport, approximately 5 miles northwest of the Innovation Park PUD area. All other proposed CNU Medical Center features, facilities, and infrastructure improvements would remain the same under this alternative.

TABLE 6-2
DEVELOPMENT ASSUMPTIONS FOR
ALTERNATIVE 3: SMALLER FOOTPRINT

Parcel	Approximate Gross Land Area in Acres	Land Use	Approximate Net Land Area in Acres	Net Residential Acres	Net Nonresidential Acres	Density	FAR	Units	Gross Floor Area (sf)
A	11.1	Commercial	9.3		9.3		0.7		282,716
B	41.0	Open Space							
C	13.8	Mixed-Use Commercial/ Residential	12.6	6.3	6.3	35	0.4	221	109,975
D, D-1	46.0	Medical Center	34.5					600	2,264,246
E, E-1 through E-4	31.7	Residential	22.1		22.1		0.6		577,606
Right-of-Way	40.2	Major Streets							
Total	183.8		78.5	63	46			Up to 821	Up to 3,234,543
Total Development Area			78.5 acres						
Total Roads/Open Space/Other			105.3 acres						
% NDA/Total Land Area			43%						

SOURCE: Data compiled by Environmental Science Associates in 2021

Comparative Analysis of Environmental Effects

Impacts Identified as Being the Same as or Similar to Those of the Proposed Project

Generally, impacts under Alternative 3 would be anticipated to be the same or similar to the impacts that would occur under the proposed Innovation Park PUD. However, because the CNU Medical Center would still be constructed on Parcels D and D-1, this alternative would still require demolition or implosion of the Sleep Train Arena. As such, insofar as this activity is expected to contribute to the impacts proposed project, that contribution would remain the same under Alternative 3, andImpacts 4.2-2 and 4.2-5, would remain significant and unavoidable.

Impacts Identified as Being Less Severe than Those of the Proposed Project

Under Alternative 3, Parcel B would be set aside as open space to preserve the water feature and riparian habitat, and 78 percent of the planned residential units and approximately 27 percent of the planned nonresidential space would be eliminated compared to the proposed project. Because the 40 acres of Parcel B would not be developed, impacts for which project footprints would determine potential impacts would be substantially lessened. These would include disturbance to potential foraging habitat for Swainson's hawk, potential nesting habitat for special-status bird species, or special-status bat species (Impacts 4.3-1, 4.3-2, 4.3-3, 4.3-10, and 4.3-11), loss of special-status plant species or protected trees (Impacts 4.3-4, 4.3-8, 4.3-12, and 4.3-15), loss of wetlands or other waters of the United States and riparian habitat (Impacts 4.3-5, 4.3-6, and

4.3-13), interference with the movement of resident or migratory fish or wildlife species or impediment to the use of native wildlife nursery sites (Impacts 4.3-7 and 4.3-14), and damage to historic, archaeological, and tribal cultural resources (Impacts 4.4-1 through 4.4-4).

The shorter duration of residential and commercial construction under the Alternative 3 would result in lesser severity of those impacts influenced by intensity or duration of construction. These include construction emissions (Impacts 4.2-2, 4.2-4, and 4.2-5), wasteful, inefficient, and/or unnecessary use of energy (Impacts 4.5-1 and 4.5-2), construction noise and vibration (Impacts 4.8-1, 4.8-2, 4.8-6, and 4.8-7), and construction-related disruptions to the transportation network (Impacts 4.10-7, 4.10-14, and 4.10-21), all of which would be lessened in severity as a result of a shorter construction duration. However, insofar as demolition of the Sleep Train Arena contributes to these impacts, that contribution would remain the same under Alternative 3.

Because approximately 78 percent of the planned residential units and approximately 27 percent of the planned nonresidential space would be eliminated compared to the proposed Innovation Park PUD, the Smaller Footprint Alternative would result in fewer operational impacts, including the amount of lighting in the project area (Impact 4.1-2), emissions of toxic air contaminants (Impact 4.2-7), generation of GHG emissions or conflicts with an applicable GHG plan (Impacts 4.6-1, 4.6-2, and 4.6-3), roadside noise (Impacts 4.8-3 and 4.8-8), ambient noise levels (Impacts 4.8-4 and 4.8-9), demand for parks and recreational resources and facilities (Impact 4.9-7 and 4.9-8), traffic volume and delay (Impacts 4.10-1, 4.10-2, 4.10-3, 4.10-8, 4.10-9, 4.10-10, 4.10-15, 4.10-16, and 4.10-17), access to transit and pedestrian facilities (Impacts 4.10-4, 4.10-5, 4.10-11, 4.10-12, 4.10-18, and 4.10-19), and the cumulative demand for water supplies (Impact 4.11-3). In addition, impacts related to operational traffic, including roadside noise, emissions of toxic air contaminants, and greenhouse gas emissions from mobile sources, under cumulative conditions would be further reduced as light rail service is planned to be extended either adjacent to or within the Innovation Park PUD area in the future, which would further reduce the amount of vehicle trips to and from the PUD area.

Impacts Identified as Being More Severe than Those of the Proposed Project

It is possible that due to the relocation of a helistop from the CNU Medical Center site to Sacramento International Airport could result in higher numbers of ambulance trips between the airport and the hospital, resulting in greater noise impacts (Impact 4.8-4).

Under Alternative 3, less housing would be provided than would be anticipated under the proposed project. As described further below and in Chapter 3, the PUD area is designated Urban Center High in the City's 2035 General Plan, a designation that envisions dense urban development, including housing and other mixed urban uses. Alternative 3 would provide for lower density development than the proposed project. In addition, if Parcel B were to be left undeveloped, an important opportunity for residential infill development in close proximity to the core of the Sacramento region would be forgone. In order for the region to achieve its Regional Housing Needs Allocation additional housing would need to be constructed, potentially at locations further from the core with corresponding increases in VMT and associated emissions of criteria air pollutants and GHG emissions. Although difficult to quantify, these secondary environmental impacts could be significant and would be more severe than the impacts of the proposed project.

Relationship to Significant and Unavoidable Impacts

Under Alternative 3, 78 percent of the planned residential units and approximately 27 percent of the planned commercial space would be eliminated compared to the proposed project. As fewer structures would be built under this alternative, the severity of significant and unavoidable impacts from the proposed project would be lessened for temporary and permanent increases in noise and vibration levels from stationary noise sources and construction (Impacts 4.8-3, 4.8-4, 4.8-7, and 4.8-9). Similarly, as fewer vehicle and pedestrian trips would be generated under Alternative 3, the severity of significant and unavoidable impacts from the proposed project would also be lessened for project-level and cumulative roadside noise levels (Impacts 4.8-3 and 4.8-9). However, significant and unavoidable impacts resulting from potential implosion of the Sleep Train Arena (Impacts 4.2-2 and 4.2-5) would remain the same.

Overall, implementation of Alternative 3 would lessen the severity of, but would not eliminate, most significant and unavoidable impacts that would occur under the proposed project.

Relationship to Plan Objectives

Development under Alternative 3 could achieve some of the project objectives for the Innovation Park PUD. Alternative 3 would develop the Sleep Train Arena site from an underutilized sports complex into a mixed-use development which would combine commercial, employment, and residential uses (Objectives 1, 4 and 6 5). This would integrate the Innovation Park PUD area into the fabric of existing development in North Natomas (Objectives 1). However, it would not result in a higher density of land uses compared to the proposed Innovation Park PUD (Objective 5). This reduction in population would in turn would provide fewer riders to support the proposed SacRT Green Line light rail line that would serve the area (Objective 8). Finally, similar types of land uses would be allowed under Alternative 3, thus allowing the owner to respond to future market conditions (Objective 9), and buildings within the Innovation Park PUD area under this alternative would be constructed in accordance with Title 24 energy standards (Objective 10).

Alternative 3 would still construct the CNU Medical Center, and provide a hospital and university services in northern Sacramento County and incorporate advanced medical techniques for diagnosis and treatment (Objectives 1 and 3); however, with fewer beds, a teaching hospital is not viable (Objective 2). The alternative would also allow the development of clinical laboratory and pharmaceutical research and development facilities and student, faculty, and senior housing (Objectives 6 and 7). A campus setting would be established, allowing all CNU services to be co-located (Objectives 5 and 10). However, Alternative 3 would not include an on-site helistop (Objective 8) and would jeopardize the ability of the CNU Medical Center to be certified as a Trauma Level II facility (Objective 4).

6.4.4 Alternative 4: Different Land Use Mix

Description

Under Alternative 4, the Different Land Use Mix Alternative, half of the nonresidential space planned for Parcel B under the proposed project would be eliminated and replaced with residential uses. The purpose of this adjustment is to reduce the amount of vehicle-related noise

generated within the Innovation Park PUD area, as commercial uses typically housed in nonresidential space generate more trips than residential uses on a per acre basis, therefore resulting in higher noise impacts. Under this alternative, the number of residential units within the Innovation Park PUD area would increase by approximately 25 percent compared to the proposed project (see Table 2-1) while the amount of nonresidential space under Alternative 4 would decrease by about 35 percent compared to the proposed project.

The existing freshwater emergent wetland on Parcel B would be partially preserved (approximately 4 acres) and treated as open space and as a passive recreational amenity, the same as the proposed project.

The CNU Medical Center would be developed the same as under the proposed project, with 3,679,400 sf of nonresidential uses, 420 hospital beds, and 600 residential units.

As shown in **Table 6-3**, Alternative 4 would provide up to approximately 2,545 dwelling units and about 784,700 sf of commercial space at buildout, as compared to approximately 3,071 residential units and approximately 4,149,400 sf of nonresidential square footage under the proposed project.

TABLE 6-3
DEVELOPMENT ASSUMPTIONS FOR
ALTERNATIVE 4: DIFFERENT LAND USE MIX

Parcel	Approximate Land Area in Acres	Land Use	Efficiency (assumes 10% to 31% roads/other)	Net Residential Acres	Net Nonresidential Acres	Density	FAR	Units	Gross Floor Area (sf)
A	11.2	Commercial	9.3		9.3		0.7		282,716
B	40.3	Mixed-Use Commercial/ Residential	30.1	15.1	15.0	35	0.6	529	392,040
C	14.1	Mixed-Use Commercial/ Residential	12.6	6.3	6.3	35	0.4	221	109,975
D, D-1	46.4	Residential	34.5	34.5		20		600	3,679,400
E, E-1	32.0	Residential	22.1	22.1		50		1,106	
Right-of-Way	39.8	Major Streets							
Total	183.8		108.6	62.9	45.7			Up to 2,545	Up to 4,464,131
Total Development Area			108.6 acres						
Total Roads/Open Space/Other			75.2 acres						
% NDA / Total Land Area			59%						

SOURCE: SBH Natomas LLC, 2018

Comparative Analysis of Environmental Effects

Impacts Identified as Being the Same as or Similar to Those of the Proposed Project

Because Alternative 4 would develop the same total area, impacts for which project footprints would determine potential impacts, would be the same. These would include disturbance to potential foraging habitat for Swainson's hawk, potential nesting habitat for special-status bird species, or special-status bat species (Impacts 4.3-1, 4.3-2, 4.3-3, 4.3-10, and 4.3-11), loss of special-status plant species or protected trees (Impacts 4.3-4, 4.3-8, 4.3-12, and 4.3-15), loss of wetlands or other waters of the United States and riparian habitat (Impacts 4.3-5, 4.3-6, and 4.3-13), interference with the movement of resident or migratory fish or wildlife species or impediment to the use of native wildlife nursery sites (Impacts 4.3-7 and 4.3-14), and damage to historic, archaeological, and tribal cultural resources (Impacts 4.4-1 through 4.4-4) would be the same as the proposed Innovation Park PUD. Helicopter-related impacts, the number of ambulance trips, and the proximity of CNU-related housing to the medical center would be the same as under the proposed project. Under Alternative 4, the same amount of land disturbance would occur as under the proposed project, resulting in a similar duration of construction. Therefore, Alternative 4 would result in similar impacts related to impacts influenced by intensity or duration of construction, including construction emissions (Impacts 4.2-2, 4.2-4, and 4.2-5), wasteful, inefficient, and/or unnecessary use of energy (Impacts 4.5-1 and 4.5-2), construction noise and vibration (Impacts 4.8-1, 4.8-2, 4.8-6, and 4.8-7), and construction-related disruptions to the transportation network (Impacts 4.10-7, 4.10-14, and 4.10-21).

Impacts Identified as Being Less Severe than Those of the Proposed Project

The purpose of Alternative 4 is to reduce the number of vehicle trips generated within the Innovation Park PUD area as commercial uses generate more trips than residential uses. This would result in a reduction of impacts related to operational traffic, including roadside noise (Impacts 4.8-3 and 4.8-8), emissions of toxic air contaminants (Impact 4.2-7), generation of GHG emissions and conflicts with an applicable GHG plan (Impacts 4.6-1, 4.6-2, and 4.6-3), and traffic volume and delay (Impacts 4.10-1, 4.10-2, 4.10-3, 4.10-8, 4.10-9, 4.10-10, 4.10-14, 4.10-15, 4.10-16, and 4.10-17). In addition, impacts related to operational traffic, including roadside noise, emissions of toxic air contaminants, and greenhouse gas emissions from mobile sources, under cumulative conditions would be further reduced as light rail service is planned to be extended either adjacent to or within the Innovation Park PUD area in the future, which would further reduce the amount of vehicle trips to and from the PUD area.

Impacts Identified as Being More Severe than Those of the Proposed Project

Under Alternative 4, the number of residential units within the Innovation Park PUD area would increase while the amount of commercial space would decrease compared to the proposed Innovation Park PUD. This increased number of residents would result in impacts related to the amount of lighting in the project area (Impact 4.1-2), ambient noise levels (Impacts 4.8-4, 4.8-5, and 4.8-10), demand for parks and recreational resources and facilities (Impact 4.9-8), adequate access to transit and pedestrian facilities (Impacts 4.10-4, 4.10-5, 4.10-11, 4.10-12, 4.10-18, and 4.10-19), and the cumulative demand for water supplies (Impact 4.11-3) would be more severe.

Relationship to Significant and Unavoidable Impacts

Under the Different Land Use Mix Alternative, the number of residential units within the Innovation Park PUD area would increase by approximately 25 percent while the amount of nonresidential space would decrease by about 35 percent. Significant and unavoidable air quality impacts resulting from potential implosion of the Sleep Train Arena (Impacts 4.2-2 and 4.2-5) would remain the same. Because having fewer job opportunities in the Innovation Park PUD area would reduce the number of vehicle trips generated, significant and unavoidable impacts related to traffic noise (Impacts 4.8-3 and 4.8-9) would be reduced under Alternative 4. However, impacts related to noise and vibration from stationary noise sources, construction, and helicopter operations (Impacts 4.8-4, 4.8-5, and 4.8-7) would remain the same.

Overall, implementation of Alternative 4 would somewhat lessen the severity of some significant and unavoidable impacts that would occur under the proposed project.

Relationship to Plan Objectives

Development under the Different Land Use Mix Alternative could achieve some of the project objectives for the proposed Innovation Park PUD. Alternative 4 would develop the Sleep Train Arena site from an underutilized sports complex into a development with a mix of uses which would combine commercial, employment, and residential uses (Objectives 1 and 5). This would integrate the Innovation Park PUD area into the fabric of existing development in North Natomas (Objectives 1 and 2). However, while this alterative would have a higher residential density, it would not provide as many employment opportunities and therefore would not maximize the mixed-use potential (Objectives 3, 4, and 7). With respect to providing riders to support the proposed SacRT Green Line light rail line that would serve the area, Alternative 2 would provide a similar number of riders as the proposed Innovation Park PUD (Objective 8). Finally, similar types of land uses would be allowed under Alternative 4, thus allowing the owner to respond to future market conditions (Objective 9), and buildings within the Innovation Park PUD area under this alternative would be constructed in accordance with Title 24 energy standards (Objective 10).

Under Alternative 4, all of the CNU Medical Center objectives would be met, as the CNU Medical Center site would be developed identical to the proposed project.

6.5 Environmentally Superior Alternative

Section 15126.6 (e)(2) of the CEQA Guidelines states that if the environmentally superior alternative is the No Project alternative, the EIR must identify an environmentally superior alternative among the other alternatives.

From the alternatives to the proposed project evaluated in this EIR, the environmentally superior alternative would be Alternative 1, the No Project/No Development Alternative. This alternative would avoid all significant impacts associated with the proposed Innovation Park PUD.

Among the other alternatives to the proposed project, Alternative 3, the Smaller Footprint Alternative, would have the fewest adverse impacts because the development footprint would be smaller by approximately 30 acres. As described, Alternative 3 would require a shorter

construction duration, which would lessen the severity of a number of impacts that would be influenced by the amount of construction. A smaller CNU Medical Center hospital would reduce the number of trips to and from the hospital and result in fewer operational impacts. In addition, because Parcel B would be set aside as open space to preserve the water feature and riparian habitat, the severity of biological resources impacts would greatly be reduced. Alternative 3 would lessen the severity of significant and unavoidable impacts from the proposed Innovation Park PUD.

CHAPTER 7
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CHAPTER 8
Acronyms and Abbreviations

Acronym or Abbreviation	Definition
°F	degrees Fahrenheit
µg	micrograms
2013 SIP Revisions	*Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan*
2017 Scoping Plan Update	*2017 Climate Change Scoping Plan*
2035 General Plan	Sacramento 2035 General Plan
AB	Assembly Bill
AC	Advisory Circular
ACC	Advanced Clean Cars Program
ADA	Americans with Disabilities Act
ADWF	average dry-water flow
AEDT	Aviation Environmental Design Tool
AF	acre-feet
AFY	acre-feet per year
AFY/DU	acre-feet per year per dwelling unit
ALS	Advanced Life Support
ALUCP	Airport Land Use Compatibility Plan
API	Active Pharmaceutical Ingredient
APN	assessor's parcel number
applicant	Sacramento Basketball Holdings, LLC
AQMP	air quality mitigation plan
BAAQMD	Bay Area Air Quality Management District
Bakersfield Citizens	*Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184
Basin Plan	*Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin*
BMP	best management practice
BNSF	BNSF Railway
BP	years Before Present
Btu	British thermal units
C-2	General Commercial zone
CAA	Clean Air Act

Acronym or Abbreviation	Definition
CAAQS	California air quality management standards
CAFÉ	Corporate Average Fuel Economy
Cal/OSHA	California Occupational Safety and Health Administration
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
California Register	California Register of Historical Resources
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CEQA Guidelines	California Environmental Quality Act Guidelines
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CH_4	methane
CHP	California Highway Patrol
CHRIS	California Historical Resources Inventory System
City	City of Sacramento
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNG	Compressed natural gas
CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CNU	California Northstate University
CNU Medical Center	California Northstate University Medical Center
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
COA	Conditions of Approval
Conference Year	extremely dry water year
CPUC	California Public Utilities Commission
CRPR	California Rare Plant Rank

Acronym or Abbreviation	Definition
CUP	conditional use permit
CUPA	Certified Unified Program Agency
CVFPB	Central Valley Flood Protection Board
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships
dB	decibels
dBA	A-weighted decibels
DDT	dichloro-diphenyl-trichloroethane
Delta	Sacramento–San Joaquin Delta
DOU	(City of Sacramento) Department of Utilities
DPM	diesel particulate matter
DSH	diameter at standard height
DTSC	California Department of Toxic Substances Control
DU	dwelling units
EIFD	enhanced infrastructure financing district
EIR	environmental impact report
EMS	Emergency Medical Services
EO	Executive Order
ESA	Environmental Science Associates
ESD	equivalent single-family dwelling
ESL	Environmental Screening Level
EV	electric vehicle
EVSE	electric vehicle supply equipment
FAA	Federal Aviation Administration
FAR	floor area ratio
FESA	federal Endangered Species Act
FHWA	Federal Highway Administration
FICAN	Federal Interagency Committee on Aviation Noise
FPD	Fire Protection District
FR	*Federal Register*
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
FTE	full-time equivalent
FWTP	E. A. Fairbairn Water Treatment Plant
General Plan	Sacramento 2035 General Plan
GHG	greenhouse gas
GMP	groundwater management plan
gpd	gallons per day
GSA	groundwater sustainability agency
GSP	groundwater sustainability plan

Acronym or Abbreviation	Definition
GVWR	Gross Vehicle Weight Rating
GWh	gigawatt-hours
H	Hospital zone
HAP	hazardous air pollutant
HASP	health and safety plan
HCP	habitat conservation plan
helistop	helicopter landing site
HFC	hydrofluorocarbon
HRA	health risk assessment
HSC	Health and Safety Code
HVAC	heating, ventilation, and air conditioning
Hz	hertz
I-5	Interstate 5
I-80	Interstate 80
IEPR	integrated energy policy report
IFP	infrastructure financing plan
in/sec	inches per second
Innovation Park PUD	Innovation Park Planned Unit Development
IO-CAP	Climate Action Plan for Internal Operations
IPCC	Intergovernmental Panel on Climate Change
ITE	Institute of Transportation Engineers
IWMA	Integrated Waste Management Act
km	kilometer(s)
kV	kilovolt(s)
kWh	kilowatt-hours
L_{50}	the noise level that is equaled or exceeded 50 percent of the specified time
L_{90}	the noise level that is equaled or exceeded 90 percent of the specified time
LCFS	Low Carbon Fuel Standard
L_{dn}	day/night average sound level 24-hour day and night A-weighted noise exposure level
LEED	Leadership in Energy and Environmental Design
L_{eq}	equivalent continuous sound level
LEV	Low-Emission Vehicle
LHMP	Sacramento County Local Hazard Mitigation Plan
LID	Low Impact Development
L_{max}	instantaneous maximum noise level for a specified period of time
LOS	level of service
LTA	local transportation analysis

Acronym or Abbreviation	Definition
MBTA	Migratory Bird Treaty Act
MEI	maximally exposed individual
MERV	Minimum Efficiency Reporting Value
mgd	million gallons per day
MMBtu	million British thermal units
MMP	mitigation monitoring plan
MMRP	Mitigation Monitoring and Reporting Program
$MMTCO_2e$	million metric tons of carbon dioxide equivalents
mpg	miles per gallon
mph	miles per hour
MSAA	Master Streambed Alteration Agreement
msl	mean sea level
MSS	Mobile Source Strategy
MTIP	Metropolitan Transportation Improvement Program
MTP/SCS	Metropolitan Transportation Plan/Sustainable Communities Strategy
MW	megawatt(s)
N_2O	nitrous oxide
NAAQS	national ambient air quality standards
NAHC	Native American Heritage Commission
National Register	National Register of Historic Places
NAVD 88	North American Vertical Datum of 1988
NBHCP	Natomas Basin Habitat Conservation Plan
NCIC	North Central Information Center
NECPA	National Energy Conservation Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NNCP	North Natomas Community Plan
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPPA	California Native Plant Protection Act
NUSD	Natomas Unified School District
O_3	ozone
OAP	ozone attainment plan
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Governor's Office of Planning and Research
OSHA	U.S. Occupational Safety and Health Administration

Acronym or Abbreviation	Definition
OSHPD	California Office of Statewide Health Planning and Development
PFA	public financing authority
PFC	perfluorocarbon
PG&E	Pacific Gas and Electric Company
PHEV	plug-in hybrid electric vehicle
PHF	peak-hour factor
PIF	Park Impact Fee
PM	particulate matter
PM_{10}	particulate matter 10 microns or less in diameter
$PM_{2.5}$	particulate matter 2.5 microns or less in diameter
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
ppd	pounds per day
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
project applicant	Sacramento Basketball Holdings, LLC
project area	Innovation Park Planned Unit Development area
proposed project	the proposed Innovation Park Planned Unit Development, including the California Northstate Medical Center
PSA	purveyor-specific agreement
psi	pounds per square inch
PUD	Planned Unit Development
PV	photovoltaic
RCFE	residential care facility for the elderly
RCRA	Resource Conservation and Recovery Act
RD 1000	Reclamation District No. 1000
Reclamation	U.S. Bureau of Reclamation
Regional San	Sacramento Regional County Sanitation District
RMS	root mean square
ROG	reactive organic gases
RPS	Renewables Portfolio Standard
RSL	Regional Screening Level
RWQCB	Regional Water Quality Control Board
SACDOT	Sacramento County Department of Transportation
SACOG	Sacramento Area Council of Governments
SacRT	Sacramento Regional Transit District
SACSIM	Sacramento Area Council of Governments' regional travel model
SASD	Sacramento Area Sewer District
SB	Senate Bill
SCEMD	Sacramento County Environmental Management Department

Acronym or Abbreviation	Definition
SCUSD	Sacramento City Unified School District
SDWA	Safe Drinking Water Act
SEL	sound exposure level
SENEL	single-event noise exposure level
sf	square feet
SF_6	sulfur hexafluoride
SFD	Sacramento Fire Department
SGA	Sacramento Groundwater Authority
SGMA	Sustainable Groundwater Management Act of 2014
SHRA	Sacramento Housing and Redevelopment Agency
SIP	State Implementation Plan
SLF	Sacred Lands File
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMF	Sacramento International Airport
SMP	site management plan
SMUD	Sacramento Municipal Utility District
SO_2	sulfur dioxide
SPD	Sacramento Police Department
SPX	Sports Complex zone
SR	State Route
SRFECC	Sacramento Regional Fire/EMS Communications Center
SRWTP	Sacramento River Water Treatment Plant
SRWWTP	Sacramento Regional Wastewater Treatment Plant
STC	sound transmission class
SVAB	Sacramento Valley Air Basin
SWA	Sacramento Regional Solid Waste Authority
SWPPP	storm water pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	Technical Advisory Committee (biological resources)
TAC	toxic air contaminant
TDM	transportation demand management
TLOF	touchdown and lift off area
TNBC	The Natomas Basin Conservancy
tpd	tons per day
UAIC	United Auburn Indian Community
UARP	Upper American River Project
UFC	Uniform Fire Code
Unified Program	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program
UPRR	Union Pacific Railroad

Acronym or Abbreviation	Definition
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	urban water management plan
VdB	vibration decibels
VDECS	Verified Diesel Emissions Control Strategies
VMT	vehicle miles traveled
VNEM	virtual net energy metering
VOC	volatile organic compound
WFA	Water Forum Agreement
WHO	World Health Organization
WSA	water supply assessment
WWTP	wastewater treatment plant
YPCE	City of Sacramento Department of Youth, Parks, and Community Enrichment
ZEV	zero-emission vehicle

CHAPTER 9
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