

SECTION 4.9

Hydrology and Water Quality

This section of the EIR addresses potential effects to hydrologic resources in the Railyards Specific Plan Update (RSPU) area, including water quality, groundwater resources, flooding, and drainage. Site characteristics such as regional and local drainage, flooding conditions, and water quality are described. The potential of the proposed RSPU to degrade water quality, adversely affect groundwater resources and/or expose people and structures to flooding is evaluated.

Issues related to the generation of wastewater and urban storm drainage, and the capacity of the City's Combined Sewer and Stormwater System (CSS) and the Sacramento Regional Wastewater Treatment Plant (SRWTP) to handle flows generated by the proposed projects, are addressed in Section 4.13, Utilities and Service Systems. Groundwater remediation is addressed in Section 4.8, Hazards and Hazardous Materials.

For the purposes of this analysis, there would be no environmental effects related to seiche, tsunami or mudflow. The RSP Area is located far from the Pacific Ocean and other large bodies of water and historically has not been affected by tsunamis. In addition, the topography is flat and mudflows are unlikely. A seiche in the Sacramento River is theoretically possible. However, the risk of this event is considered very low because the river channel is not completely enclosed. Therefore, these issues are not discussed further in the SEIR.

NOP comment letters received relevant to this section included comments regarding the historical and ongoing remedial measures for contaminated groundwater (see Appendix B). A discussion of groundwater remediation can be found in Section 4.8, Hazards and Hazardous Materials. No other comments related to hydrology and water quality were received.

The analysis included in this section was developed based on information developed in the Specific Plan, the Railyards Stormwater Quality Management Plan,¹ the Railyards Drainage Master Plan,² City of Sacramento 2035 General Plan Update Master EIR, and other published technical reports, as indicated in the footnoted references.

Issues Addressed in the 2007 RSP EIR

Issues that were discussed in the 2007 RSP EIR include construction-related degradation of water quality, operation-related degradation of water quality, polluted runoff that could violate water

¹ Kimley-Horn and Associates, Inc., 2016. The Railyards Stormwater Quality Management Plan. June 2016.

² Kimley-Horn and Associates, Inc., 2016. The Railyards Drainage Master Plan. June 2016.

quality standards, interference with groundwater recharge, increased flooding risk, and the effects of using a cistern to capture and meter stormwater flows. These issues will be addressed in this section, with the exception of the cistern, which is no longer proposed. Instead, the RSPU proposes to construct a stormwater outfall into the Sacramento River, which was not planned or discussed in 2007.

4.9.1 Environmental Setting

The environmental setting for hydrology and water quality is described on pages 6.6-2 through 6.6-18 of the 2007 RSP Draft EIR. The information presented for the project site remains relatively unchanged since certification of the 2007 RSP EIR. The description of the cistern is no longer relevant, because a new outfall is now proposed instead. The following discussion is based on the 2007 RSP EIR setting, updated as needed to reflect changes that have occurred since 2007.

Regional Surface Water Resources

The City of Sacramento is located at the confluence of two major rivers, the Sacramento River and American River. The RSPU lies very close to the confluence, with the Sacramento River located just west of the site, while the American River parallels the northern boundary. The total length of the Sacramento River is approximately 327 miles. Its drainage area encompasses approximately 27,200 square miles, and is bounded by the Sierra Nevada to the east, the Coast Ranges to the west, the Cascade Range and Trinity Mountains to the north, and the Delta-Central Sierra area to the south. The Sacramento River is the principal stream in the basin. Its major tributaries are the Pit and McCloud rivers, which join the Sacramento River from the north, and the Feather and American rivers, which are tributaries from the east. Numerous tributary creeks flow from the east and west.

The average runoff from the Sacramento River basin is estimated to be 22 million acre-feet per year. The melting snow pack in the Sierra Nevada maintains stream flow during most of the summer. The Sacramento River system experiences variations in water levels throughout the year. Two factors affecting the water levels are the amount of runoff entering the system from the rivers' watersheds and the amount of water being released from dams upstream. The downstream portion of the system is also subject to tidal action from the Sacramento-San Joaquin Delta (Delta). Finally, the mainstem of the Sacramento River and many of its tributaries are confined by a levee system along their streambanks. During periods of high flows, primarily in the winter, a system of bypass channels allows water to leave the mainstem channel and bypass the urbanized areas of the valley, thus reducing potential flood hazard. Chief of these in the project vicinity is the Yolo Bypass, which is located west of the Sacramento River.

The Sacramento River, beginning at the I Street Bridge and including all portions downstream, is considered part of the Sacramento-San Joaquin Delta. Flooding has historically been a problem for Sacramento, prompting the City to build levees beginning in the 1860s. The RSP Area is immediately upstream of the I Street Bridge and landside to the east bank of the river.

The American River drains the central portion of the Sierra Nevada from the crest near Lake Tahoe to the reservoir at Folsom Lake, and the secondary reservoir below it at Nimbus Dam. The American River basin drains an area of roughly 1,875 square miles. An average of 2.2 million acre-feet of runoff drains from the basin annually. The Lower American River comprises the 24-mile stretch of river below Nimbus Dam to the confluence. Flows in the Lower American River are controlled by releases from Folsom Dam and Nimbus Dam.³

Surface Water Quality

The Sacramento River has been classified by the Central Valley Regional Water Quality Control Board (CVRWQCB) as having numerous beneficial uses, including providing a municipal, agricultural, and recreational water supply. Other beneficial uses include freshwater habitat, spawning grounds, wildlife habitat, and navigation on the Sacramento River. Ambient water quality in the Sacramento River is influenced by agricultural drainage, drainage from historic and current mines, urban runoff, and industrial, municipal and construction discharges.

The Sacramento River Basin covers approximately 27,210 square miles and includes the entire area drained by the Sacramento River. For planning purposes, this includes all tributary watersheds that upstream of and including the Cosumnes River watershed and includes the closed basin of Goose Lake and drainage sub-basins of Cache and Putah Creeks. The principal streams are the Sacramento River and its larger tributaries, which include: the Pit, Feather, Yuba, Bear, and American rivers to the east; and Cottonwood, Stony, Cache, and Putah Creeks to the west. Major reservoirs and lakes include Shasta, Oroville, New Bullards Bar, Folsom, Clear Lake, and Lake Berryessa.⁴

Currently, there are reaches of the Sacramento River through the Sacramento urban area that are considered impaired and included in the federal Clean Water Act (CWA) Section 303(d) list of impaired and threatened waters for California. Section 303(d) establishes the total maximum daily load (TMDL) process to assist in guiding the application of state water quality standards, requiring the states to identify streams in which water quality is impaired (affected by the presence of pollutants or contaminants) and to establish the TMDL or the maximum quantity of a particular contaminant that a water body can assimilate without experiencing adverse effects. The 303(d) list breaks up the Sacramento River into four sections, Keswick Dam to Cottonwood Creek, Cottonwood Creek to Red Bluff, Red Bluff to Knights Landing, and Knights Landing to the Delta. All sections of the Sacramento River are listed on the 303(d) list for unknown toxicity, and Red Bluff to the Delta is also listed for mercury. Mercury is primarily a legacy of gold mining.

³ City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report (SCH No. 2012122006)*. Certified March 3, 2015. pp. 4.7-1 – 4.7-18.

⁴ Central Valley Regional Water Quality Control Board. 2015. *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*. Revised Pages, pp. I-1.00. June 2015.

Ambient water quality in the Sacramento and American rivers is influenced by numerous natural and artificial sources, including soil erosion, discharges from industrial and residential wastewater treatment plants, stormwater runoff, agriculture, recreation activities, mining, and timber harvesting.

Urban Runoff Water Quality

Constituents found in urban runoff vary as a result of differences in rainfall intensity and occurrence, geographic features, land uses, as well as vehicle traffic and percent of impervious surface. In the Sacramento area, there is a natural weather pattern of little to no precipitation from May to October. During this seasonal dry period, pollutants contributed by vehicle exhaust, vehicle and tire wear, crankcase drippings, spills, and atmospheric fallout accumulates within the urban watershed. Precipitation during the early portion of the wet season (November to April) washes these pollutants into the stormwater runoff, which can result in elevated pollutant concentrations in the initial wet weather runoff. This initial runoff with peak pollutant levels is referred to as the "first flush" of a storm event or events.

Stormwater discharge monitoring data have been collected from the Sacramento urban area monitoring stations since 1990. From this monitoring, the following six pollutants have been identified as "target pollutants:" mercury, diazinon, chlorpyrifos, lead, copper, and fecal coliform. These pollutants were determined based on their toxicity, potential of exceeding water quality criteria, ability to accumulate in humans and animals, or listed as a pollutant impairing water bodies by the State Water Resources Control Board.

Groundwater Use

The City of Sacramento has historically relied on groundwater to satisfy a portion of its demand. The City overlies two subbasins of the Sacramento Valley Groundwater Basin (the North American and South American subbasins). The two subbasins are separated from one another, and recharged from the American River. The City is one of many water purveyors that use groundwater from these subbasins. The City operates 25 municipal supply wells and 5 irrigation wells in the North American subbasin, and operates 2 municipal supply wells and 9 irrigation wells in the South American subbasin. Although the City pumps groundwater from both subbasins, approximately 17,772 AF, or 96 percent, was pumped from the North American subbasin, while only 665 AF was pumped from the South American subbasin for potable water consumption in 2010.⁵

Groundwater Quality

This section is focused on the South American subbasin, because groundwater quality within this subbasin is separated from that of the North American subbasin, except at much greater depths. The South American subbasin covers approximately 248,000 acres (388 square miles) and lies

⁵ City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan*. October 2011, Carollo Engineers.

within the southernmost extent of the Sacramento Valley Basin, extending into northern portions of the Sacramento-San Joaquin Delta. Except for areas of localized groundwater contamination (see Section 4.8, Hazards and Hazardous Materials), groundwater underlying the City's service area generally meets primary and secondary drinking water standards for municipal water use, and is described as being calcium magnesium-bicarbonate type water, with minor fractions of sodium-magnesium bicarbonate. Due to high concentrations of iron and manganese in the lower aquifer system, the upper aquifer system is usually the preferred source of groundwater. The lower aquifer system also contains higher concentrations of total dissolved solids (TDS) than the upper aquifer. The TDS concentration in most wells is within secondary drinking water standards, but varies quite significantly throughout the area (from 21 to 657 milligrams per liter (mg/L), with an overall average of 221 mg/L). TDS concentrations exceed 2,000 mg/L at depths of approximately 1,200 feet or greater. However, most wells do not extend into this poorer quality groundwater.⁶

RSP Area

The RSP Area once contained natural water features. A northern water body was known as Willow Lake, and a southern water body was called Sutter Lake, Sutter Slough, or China Lake. These lakes and adjacent marshland covered the entire RSP Area. Both lakes were connected to the Sacramento River through a narrow channel. Over time, the lakes and marshes were filled to accommodate development. No natural water features remain within the RSP Area.

The RSP Area has been graded and improved during varying stages of soil remediation. In general, the site is relatively flat sloping gently to the west with some intermittent soil stockpiles and excavated depressions throughout. Elevations in the project site range from 10 to 35 feet. Excavated materials from the site have been stockpiled at the north property line. This area has been designated as the location of the future Vista Park. Elevations of Vista Park range from 35 to 50 feet. Also, an embankment borders the northern boundary of the RSP Area extending from the proposed Vista Park site on the west to 12th Street on the east along the south edge of North B Street. This embankment separates the RSP Area from areas to the north. The embankment elevations range from 35 to 40 feet. Historically the north half of the embankment, in addition to a strip of property adjacent to the west side of 7th Street south of the UPRR tracks, drain away from the site due to topography.⁷ A flood gate was installed when 7th Street was constructed through the berm with an elevation of approximately 34.

Portions of the RSP Area are located in an area of Sacramento served by the CSS, a collection and conveyance system designed to convey domestic sewage, commercial and industrial wastewater, and surface stormwater runoff in a single pipeline for treatment at a regional wastewater treatment facility. The CSS is a legacy system that was designed to provide both stormwater and sanitary sewer service (combined in a single pipeline system) within this area.

⁶ City of Sacramento Department of Utilities, 2011. *2010 Urban Water Management Plan*. October 2011, Carollo Engineers.

⁷ Kimley-Horn and Associates, Inc., 2016. *The Railyards Drainage Master Plan*. June 2016.

While the RSP Area is in a portion of downtown that conveys flows into the 7th Street and 3rd Street trunk lines, due to site remediation surrounding the historic shops and relocation of the UPRR tracks, all connections between the shops and the CSS on 7th Street have been severed. Stormwater from the shops is currently conveyed under the UPRR tracks to a detention basin at the southwest corner of the shops and then from the detention basin to the CSS at 3rd and I streets.

The development of 7th Street north of the UPRR tracks created a series of ponds to collect runoff from the 7th Street right-of-way. Those ponds direct runoff north to North B Street where it discharges into the City's stormwater Sump 111. The 7th Street basins prevent surface runoff east of 7th Street from draining west. A temporary retention pond was also constructed south and adjacent to Railyards Boulevard to capture runoff from impervious areas west of 7th Street and north of the UPRR tracks. The lined retention pond was designed with a capacity to capture flows from the 10-day, 100-year storm, with a maximum storage capacity of 12 acre feet, and to eliminate the water through evaporation. In addition, stormwater conveyance pipelines were installed in 5th and 6th streets, north of UPRR, which also drain to the Railyards Boulevard trunk line and retention basin. South of UPRR an additional detention basin was constructed west of 5th Street to mitigate the increased runoff from roadway and private lots south of the tracks. A flow control structure was installed in 5th Street, north of H Street, to control flows entering the Basin 52 separate stormwater system. **Figure 4.9-1** shows the existing drainage features and infrastructure in the project site.⁸

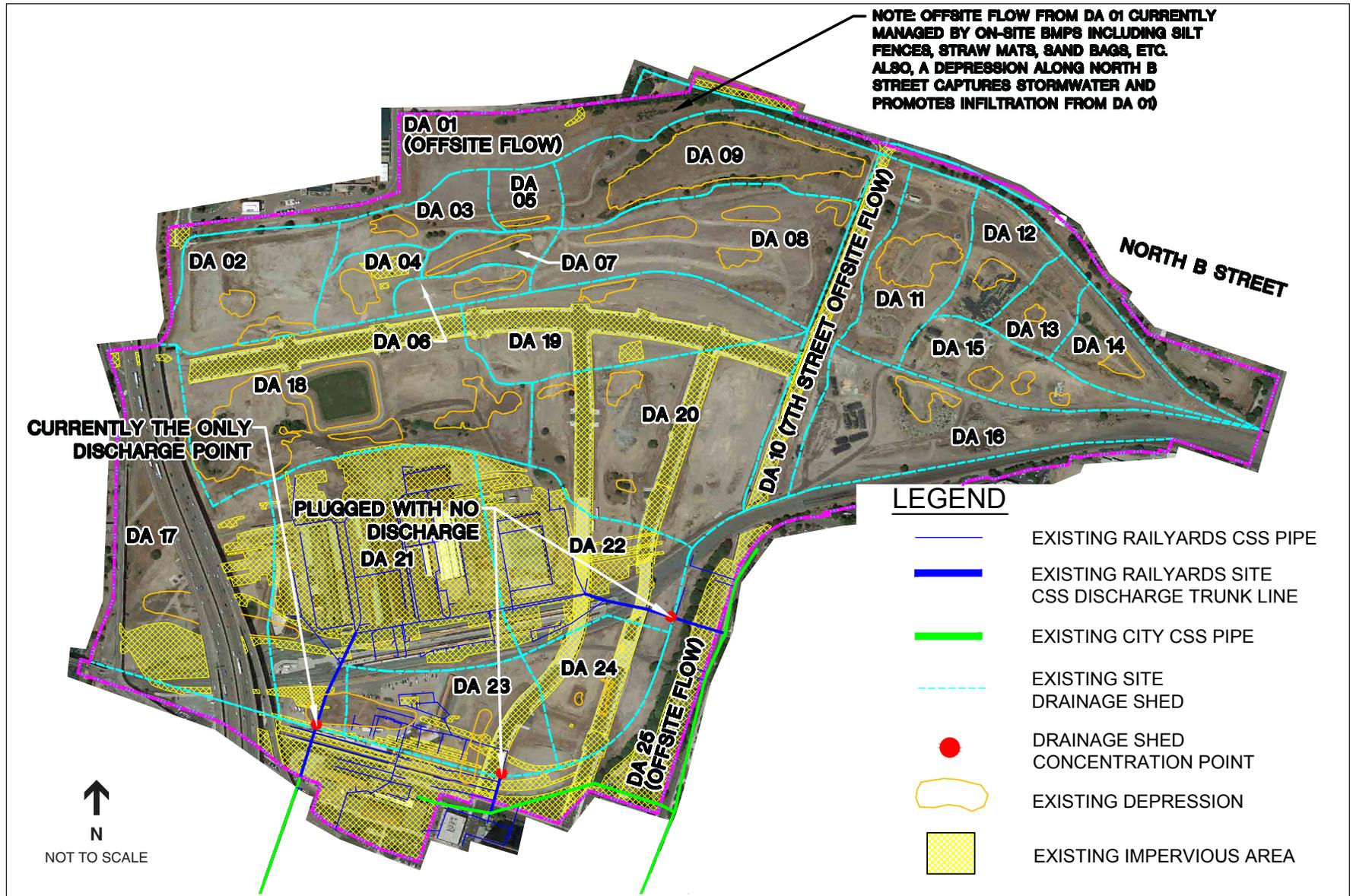
Flooding

The majority of the RSP Area is outside the 100-year floodplain designation, largely due to existing topographic elevations in the RSP Area with respect to the water surface elevation during high water flows events. As shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the City of Sacramento in **Figure 4.9-2**, a majority of the RSPU is classified as Zone X, or "areas determined to be outside the 500-year flood floodplain." A small portion of the RSPU is in a Shaded Zone X, which is defined as "areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood."⁹ Historical flooding in the project vicinity generally occurred along the Sacramento and American rivers. Improvements to the levees along these rivers have reduced the risk of flooding in the City; however, additional improvements are scheduled for completion by 2025 for the levee system, in which the RSP Area is located, to meet the State's criteria in Senate Bill (SB) 5 for urban level of flood protection from a 200-year event.

In addition to levees along the Sacramento and American rivers, flood protection is provided by coordinated operation of upstream reservoirs and dams, including Shasta Dam and Folsom Dam, respectively. The RSP Area is mapped within the dam inundation zone in the event of failure at Folsom Dam. A railroad embankment built on the northern boundary of the RSP Area, along

⁸ Kimley-Horn and Associates, Inc., 2016. The Railyards Drainage Master Plan. June 2016.

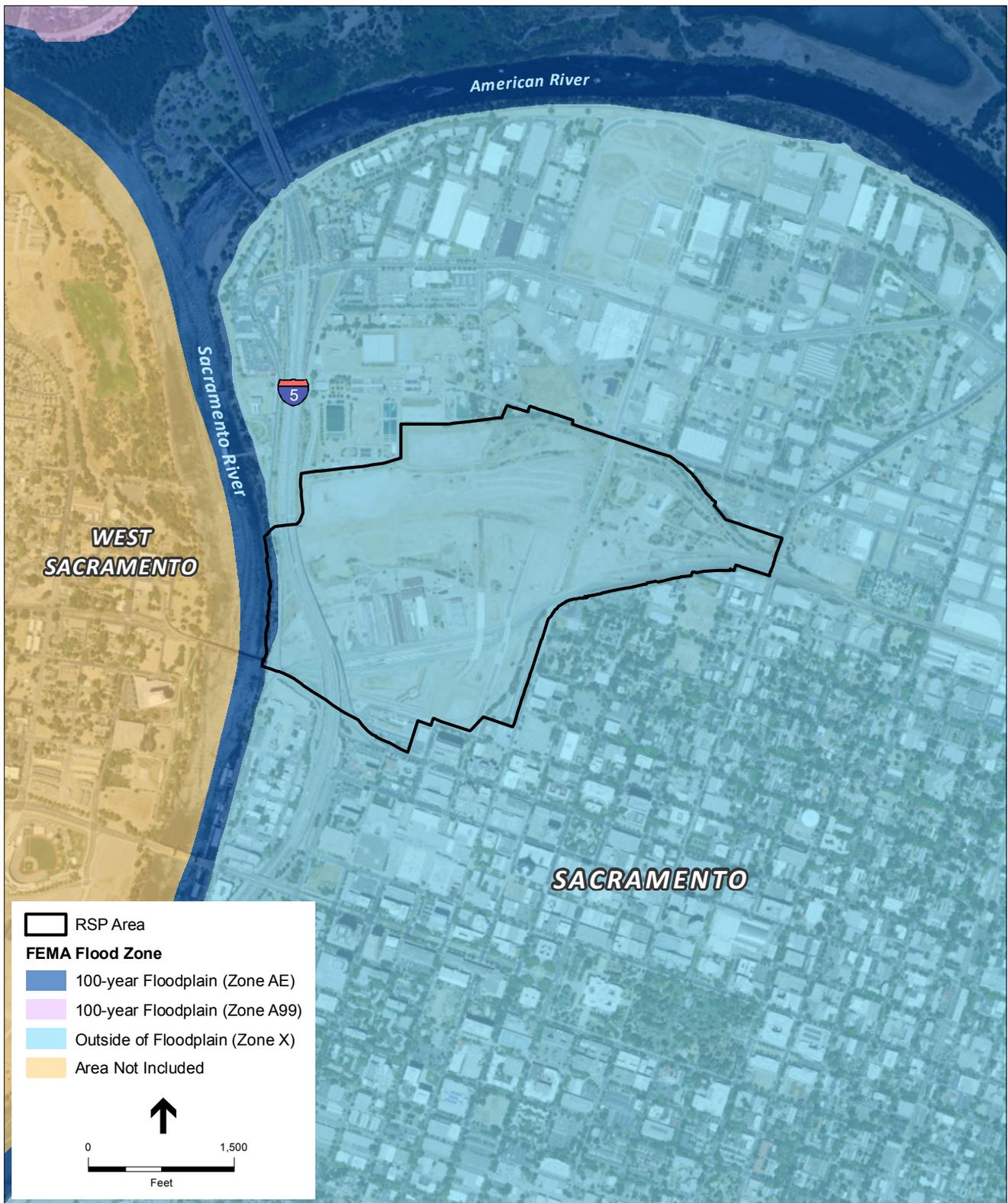
⁹ Federal Emergency Management Agency. Floodplain Map. FEMA, 2015.



SOURCE: ESA 2015

Sacramento Railyards Specific Plan Update . 150286

Figure 4.9-1
Existing Stormwater Drainage Features



SOURCE: FEMA, 2015; ESA, 2016

Sacramento Railyards Specific Plan Update . 150286

Figure 4.9-2
FEMA Floodplain Map

North B Street, was once considered a flood prevention facility, but was never certified or constructed under federal standards to serve as a legitimate flood protection levee. FEMA had credited this structure, along with the UPRR tracks embankment, with providing added protection from flooding for areas within the RSP Area, as evidenced on the current FEMA floodplain map.

A recent study conducted for the City found that while the embankment provides some protection of the RSP Area with the 7th Street flood gates closed, the structure was likely built with sandy soils from the American River that would not prevent leakage through the embankment if there were flooding in the River District. Further, the study found that the embankment could provide extra time for evacuation of areas south of the RSP Area only under conditions of failure or overtopping of levees along the American River.¹⁰

Groundwater

Groundwater underlying the RSP Area has been reported at depths ranging from elevation 2 to elevation 18 feet mean sea level (msl).¹¹ The depth to groundwater is primarily determined by proximity to the Sacramento River, and is related to the river stage elevation. Groundwater in the RSP Area is currently not in use. Groundwater quality within the RSP Area has been impacted by operations and disposal of wastes in the past due to former industrial activities in various areas of the RSP. This led to the pollution of groundwater beneath the RSP, and down gradient primarily in the south easterly direction. Primary pollutants in the groundwater include a range of contaminants such as heavy metals, VOCs, SVOCs, and petroleum hydrocarbon. This pollution has further impaired the beneficial uses of this water resource.

As described in Chapter 4.8, soil remediation at the RSP has been primarily completed with certification issued by DTSC. Remediated areas within the RSP are considered suitable for development. Groundwater beneath the RSP is divided into two plumes: South Plume and Lagoon Groundwater. Both plumes are currently undergoing remediation by Union Pacific. Even though remediation has been completed in some areas and will occur in the near-term for others, it is possible that residual chemicals could remain in site soils or groundwater where they could be encountered during construction. For more discussion of groundwater contamination, please see Section 4.8, Hazards and Hazardous Materials.

KP Medical Center

The KP Medical Center would be located on an approximately 18-acre parcel near the western end of the RSP Area, north of Railyards Boulevard and west of 5th Street. Like most of the RSP Area, the KP Medical Center site is provided 500-year protection primarily by existing levees and secondarily by the North B Street embankment and elevation of the site. This land is currently undeveloped and has no impervious surfaces. Stormwater on this site percolates into the soil.

¹⁰ GEI Consultants, Inc., February 15, 2016. Technical Memorandum: Assessment of the North B Street Embankment, p. 3.

¹¹ ERM-West, Inc., 2015. 2015 Annual Groundwater Monitoring and Remediation Systems Operation and Maintenance Report, August 28, 2015. p. 33.

Groundwater levels and quality in the KP Medical Center site are similar to that of the RSP Area as a whole.

MLS Stadium

The proposed MLS Stadium would be located on an approximately 13-acre parcel near the eastern end of the Specific Plan project site, north of Railyards Blvd, between 8th and 10th streets, and south of the former railroad embankment that forms the northern boundary of the RSP Area. Like most of the RSP Area, the MLS Stadium site is provided 500-year protection primarily by existing levees and secondarily by the elevation of the site. This land is currently undeveloped and has no impervious surfaces. Stormwater in this area collects in depressions within or adjacent to the site where it evaporates and percolates into the soil. Detention ponds located adjacent to 7th Street collect stormwater from the road right of way where it is discharged into the City's stormwater Sump 111. Groundwater levels and quality in the MLS Stadium site are similar to that of the RSP Area as a whole.

Stormwater Outfall

The Stormwater Outfall would be located at the western boundary of the RSP Area, under the I-5 viaduct immediately south of Railyards Boulevard. The outfall structure will be on the waterside of the existing project levee along the Sacramento River bank. The discharge pipes will be constructed from the new pump station (located east adjacent to the I-5 viaduct) through the project levee to the outfall structure. This land is currently undeveloped and has no impervious surfaces, except for Jibboom Street and a recreational trail.

4.9.2 Regulatory Setting

The 2007 RSP Draft EIR summarizes applicable regulations on pages 6.6-12 through 6.6-18. The following federal, State and local regulations and plans associated with hydrology and water quality updates the information provided in the 2007 RSP Draft EIR.

Federal

Clean Water Act and Associated Environmental Compliance

Several sections of the CWA pertain to regulating impacts on waters of the United States. The discharge of dredged or fill material into waters of the United States is subject to permitting specified under Title IV (Permits and Licenses) of the CWA and specifically under Section 404 (Discharges of Dredge or Fill Material) of the act. Section 401 (Certification) specifies additional requirements for permit review, particularly at the state level.

Section 303

The State of California adopts water quality standards to protect beneficial uses of state waters as required by Section 303 of the CWA and the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne). Section 303(d) of the CWA established the TMDL process to guide the application of state water quality standards (see discussion of state water quality standards

below). To identify candidate water bodies for TMDL analysis, a list of water quality–limited streams was generated. These streams are impaired by the presence of pollutants, including sediment, and are more sensitive to disturbance. Section 303(d) listing associated with water bodies in the RSPU has been described in the environmental setting above.

Section 401

Section 401 of the CWA requires that an applicant pursuing a federal permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States obtain a water quality certification (or waiver). Water quality certifications are issued by RWQCBs in California. Under the CWA, the state RWQCB must issue or waive Section 401 water quality certification for the project to be permitted under Section 404. Water quality certification requires the evaluation of water quality considerations associated with dredging or placement of fill materials into waters of the United States and imposes project-specific conditions on development. A Section 401 waiver establishes conditions that apply to any project that qualifies for a waiver.

Section 402

The 1972 amendments to the Federal Water Pollution Control Act established the National Pollutant Discharge Elimination System (NPDES) permit program to control discharges of pollutants from point sources (Section 402). The 1987 amendments to the CWA created a new section of the CWA devoted to stormwater permitting (Section 402[p]). EPA has granted the State of California (the State Water Board and RWQCBs) primacy in administering and enforcing the provisions of CWA and NPDES. NPDES is the primary federal program that regulates point-source and non-point-source discharges to waters of the United States.

The State Water Board issues both general and individual permits for discharges to surface waters, including for both point-source and non-point-source discharges. In response to the 1987 amendments, the EPA developed the Phase I NPDES Storm Water Program for cities with populations larger than 100,000, and Phase II for smaller cities. In California, the State Water Board has drafted the General Permit for Discharges of Storm Water from Municipal Separate Storm Sewer Systems (MS4 General Permit). The City of Sacramento has coverage under the Phase I MS4 General Permit issued by the CVRWQCB, which is discussed in more detail below.

Section 404

Dredging and placement of fill materials into the waters of the United States is regulated by Section 404 of CWA, which is administered by the U.S. Army Corps of Engineers (USACE).

Section 408

Section 408 regulates the modification or alteration of federal project levees or other flood management structures and improvements, unless otherwise permitted by the USACE through the Central Valley Flood Protection Board (CVFPB).

National Pollutant Discharge Elimination System Permits

The NPDES permit system was established in the CWA to regulate municipal and industrial point discharges to surface waters of the U.S. Each NPDES permit for point discharges contains limits on allowable concentrations of pollutants contained in discharges. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits. Section 307 of the CWA describes the factors that the EPA must consider in setting effluent limits for priority pollutants.

The CWA was amended in 1987 to require NPDES permits for non-point source (i.e., stormwater) pollutants in discharges. Stormwater sources are diffuse and originate over a wide area rather than from a definable point. The goal of NPDES stormwater regulations is to improve the quality of stormwater discharged to receiving waters to the “maximum extent practicable” through the use of structural and non-structural Best Management Practices (BMPs). BMPs can include the development and implementation of various practices including educational measures (workshops informing public of what impacts results when household chemicals are dumped into storm drains), regulatory measures (local authority of drainage facility design), public policy measures, and structural measures (filter strips, grass swales and detention ponds). The NPDES permit that applies to activities in the City of Sacramento are described under local regulations below.

Rivers and Harbors Act and Associated Environmental Compliance

The Rivers and Harbors Act regulates placement of fill and structures in navigable waterways. The permit program, regulated under Section 10 of the Act, is administered by the USACE. In practice, permitting is combined with CWA Section 404 permitting. A Section 404/10 permit would be required for construction of the proposed marina.

Floodplain Development

The Federal Emergency Management Agency (FEMA) is responsible for determining flood elevations and floodplain boundaries based on hydrologic and hydraulic studies. FEMA is also responsible for distributing the Flood Insurance Rate Maps (FIRMS), which are used in the National Flood Insurance Program (NFIP). These maps identify the locations of special flood hazard areas, including the 100-year floodplain.

Federal regulations governing development in a floodplain are set forth in Title 44, Part 60 of the Code of Federal Regulations (CFR).¹² FEMA imposes building regulations on development within flood hazard areas depending upon the potential for flooding within each area. Building regulations are incorporated into the municipal code of jurisdictions participating in the NFIP. Section 15.104, Floodplain Management Regulations, of the Sacramento City Code includes requirements for compliance with Title 44, Part 60 of the CFR.

¹² Code of Federal Regulations, 2002. *Title 44, Emergency Management and Assistance, Part 60, Criteria for Land Management and Use*. October 1, 2002.

State

Discharges from the RSPU are subject to State water quality laws and regulations. The CVRWQCB is responsible for preparing a water quality control plan (basin plan) that identifies beneficial uses of the Sacramento River and its tributaries and also for preparing water quality objectives for the protection of beneficial uses. Numerical and narrative criteria are contained in the basin plan for key water quality constituents, including: dissolved oxygen (DO), water temperature, trace metals, turbidity, suspended material, pesticides, salinity, radioactivity, and other related constituents. The Basin Plan criteria are applied through the Phase I MS4 General Permit issued by the CVRWQCB to cover stormwater discharges from activities in the City, including those from development.

Sustainable Groundwater Management Act

The Department of Water Resources (DWR) has developed a Strategic Plan for its Sustainable Groundwater Management (SGM) Program. DWR's SGM Program will implement the new and expanded responsibilities identified in the 2014 Sustainable Groundwater Management Act (SGMA). Some of these expanded responsibilities include: (1) developing regulations to revise groundwater basin boundaries; (2) adopting regulations for evaluating and implementing Groundwater Sustainability Plans (GSPs) and coordination agreements; (3) identifying basins subject to critical conditions of overdraft; (4) identifying water available for groundwater replenishment; and (5) publishing best management practices for the sustainable management of groundwater.

Porter-Cologne Water Quality Control Act Overview

Porter-Cologne, passed in 1969, articulates with the federal CWA (see "Clean Water Act" above). It established the State Water Board and divided the state into nine regions, each overseen by an RWQCB. The State Water Board is the primary state agency responsible for protecting the quality of the state's surface and groundwater supplies, but much of its daily implementation authority is delegated to the nine RWQCBs, which are responsible for implementing CWA Sections 402, and 303(d). In general, the State Water Board manages both water rights and statewide regulation of water quality, while the RWQCBs focus exclusively on water quality in their regions. The Sacramento River basin is under the jurisdiction of the CVRWQCB. Construction activities are regulated under the NPDES General Permit for Discharges of Storm Water Runoff associated with Construction Activity (General Construction Permit CVRWQCB Order No. 2012-0006-DWQ, NPDES No. CAS000002), provided that the total amount of ground disturbance during construction is one acre or more. The CVRWQCB requires the implementation of the General Construction Permit within the City of Sacramento. Coverage under a General Construction Permit requires the preparation and implementation of a stormwater pollution prevention plan (SWPPP) and notice of intent (NOI). The SWPPP includes pollution prevention measures (erosion and sediment control measures and measures to control non-stormwater discharges and hazardous spills), demonstration of compliance with all applicable local and regional erosion and sediment control standards, identification of responsible parties, a detailed construction timeline, and a best management practices (BMPs) monitoring and

maintenance schedule. The NOI includes site specific information and the certification of compliance with the terms of the General Construction Permit.

Dewatering Activities

Where groundwater levels tend to be shallow, dewatering during construction is sometimes necessary to keep trenches or excavations free of standing water when improvements or foundations/footings are installed. Clean or relatively pollutant-free water that poses little or no risk to water quality may be discharged directly to surface water under certain conditions. The CVRWQCB has adopted a general NPDES permit for short-term discharges of small volumes of wastewater from certain construction-related activities (General Dewatering Permit). Permit conditions for the discharge of these types of wastewaters to surface waters are specified in “General Order for Dewatering and Other Low-Threat Discharges to Surface Waters” (Order No. R5-2013-0074, NPDES No. CAG995001). Discharges may be covered by the General Dewatering Permit provided they are (1) either four months or less in duration or (2) the average dry weather discharge does not exceed 0.25 million gallons per day and meet the effluent limitations provided in the order for pH, turbidity, total suspended solids, and biological oxygen demand. Construction dewatering, well development water, pump/well testing, and miscellaneous dewatering/low-threat discharges are among the types of discharges that may be covered by the General Dewatering Permit. The General Dewatering Permit also specifies standards for testing, monitoring, and reporting, receiving water limitations, and discharge prohibitions. Dischargers must file a NOI with the CVRWQCB and obtain all necessary approvals prior to commencing any discharges of wastewater. Impacts associated with construction dewatering are addressed entirely within Section 4.8, Hazards and Hazardous Materials.

Stormwater Discharges

The CWA mandates permits for municipal stormwater discharges. The City of Sacramento has coverage under a MS4 Permit. This permit requires that controls be implemented 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 (SQIP), which outlines the 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. New development under the proposed project would be required to follow the guidance contained in the latest editions of the City’s Stormwater Quality Design Manual.

California Department of Water Resources

On February 24, 2006, Governor Arnold Schwarzenegger declared a state of emergency for California’s levee system. Soon after, he signed Executive Order S-01-06 directing the California Department of Water Resources (DWR), with the assistance of the USACE, to develop a State Levees Team that would identify and repair eroded levee sites on the state-federal project levee

system to prevent catastrophic flooding and loss of life. A total of 33 critical erosion sites were identified on the levee systems in the northern Central Valley. The 29 identified critical erosion sites are located in six counties: Colusa, Sacramento, Solano, Sutter, Yolo, and Yuba. These critical erosion sites were repaired in 2007. As part of its mission, DWR has responded to requests from various local agencies to survey and document erosion damage at a number of additional proposed sites. DWR has committed to assisting local agencies in determining the best way to accomplish any needed repairs, the funding mechanisms available, and the responsible agency to take the lead.

Central Valley Flood Management

The Central Valley Flood Management Planning (CVFMP) Program was launched by DWR in 2008 and is managed by the Division of Flood Management's Central Valley Flood Planning Office (CVFPO). The Central Valley Flood Protection Plan (CVFPP) sets forth a plan for sustainable flood management and investment to improve flood risk management in the Central Valley through use of the State Plan of Flood Control (SPFC) facilities. Following adoption of the CVFPP in 2012, DWR began refinement of the CVFPP recommendations via the Basin-Wide Feasibility Studies, the Regional Flood Management Planning, and the Central Valley Flood System Conservation Strategy. The next update of the CVFPP is scheduled for completion in 2017. Implementation of certain CVFPP actions has already begun and will be expanded after the 2017 Update.

The RSPU is located within the Lower Sacramento North / Delta North Regional Flood Management Planning region. The preparation of the Regional Flood Management Plan for the Sacramento North/Delta North is currently underway. As a part of the process, projects that would improve flood control within the region will be identified and ranked.¹³ In addition, the passage of SB 5 effectively set a higher flood protection threshold for urban areas by requiring a minimum of 200-year protection by 2025.¹⁴ To meet the requirements if SB 5, the City prepared the Comprehensive Flood Management Plan in February 2015.

Further, the CVFPB has the responsibility of regulating encroachment that could affect the federal flood management system, as maintained by local flood agencies (i.e., SAFCA). As stated in the California Code of Regulations, Title 23, Article 1, Section 2(b), "the area of the Board's jurisdiction includes the entire Central Valley, including all tributaries and distributaries of the Sacramento and San Joaquin rivers, and the Tulare and Buena Vista Basins." Because the proposed projects would be located on and within the flood control right-of-way for the levee along the Sacramento River, approval for encroachment by the CVFPB is required. The approval process by the CVFPB is contingent on approval of the 408 permit by USACE mentioned previously.

¹³ California Department of Water Resources, 2013. *Central Valley Flood Management (CVFMP) Program*. <http://www.water.ca.gov/cvfmp/>. Accessed September 13, 2013.

¹⁴ California Water Code. *Central Valley Flood Protection, Section 9600 –9651*.

Local

City of Sacramento General Plan

The City of Sacramento 2035 General Plan adopted the following goals and policy measures that pertain to the impacts evaluated in this section (urban runoff water quality, construction dewatering, and wastewater discharges).

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.

Policies

- 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.
- 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.
- 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 to prevent on- or off-site flooding.

Goal ER 1.1 Water Quality Protection. Protect local watersheds, water bodies and groundwater resources, including creeks, reservoirs, the Sacramento and American rivers, and their shorelines.

Policies

- ER 1.1.3 **Stormwater Quality.** The City shall control sources of pollutants and improve and maintain urban runoff water quality through storm water protection measures consistent with the City's National Pollutant Discharge Elimination System (NPDES) Permit.
- ER 1.1.4 **New Development.** The City shall require new development to protect the quality of water bodies and natural drainage systems through site design (e.g., cluster development), source controls, storm water treatment, runoff reduction measures, best management practices (BMPs), Low Impact Development (LID), and hydromodification strategies consistent with the City's NPDES Permit.
- ER 1.1.5 **Limit Stormwater Peak Flows.** The City shall require all new development to contribute no net increase in stormwater runoff peak flows over existing conditions associated with a 100-year storm event.
- ER 1.1.6 **Post-Development Runoff.** The City shall impose requirements to control the volume, frequency, duration, and peak flow rates and velocities of runoff from development projects to prevent or reduce downstream erosion and protect stream habitat.
- ER 1.1.7 **Construction Site Impacts.** The City shall minimize disturbances of natural water bodies and natural drainage systems caused by development, implement measures to protect areas from erosion and sediment loss, and continue to require construction contractors to comply with the City's erosion and sediment control ordinance and stormwater management and discharge control ordinance.

Goal EC 2.1 Flood Protection. Protect life and property from flooding.

Policies

- EC 2.1.6 **Floodplain Capacity.** The City shall preserve urban creeks and rivers to maintain existing floodplain capacity.

- EC 2.1.8 **Floodplain Requirements.** The City shall regulate development within floodplains in accordance with State and Federal requirements and maintain the City's eligibility under the National Flood Insurance Program.
- EC 2.1.11 **New Development.** The City shall require evaluation of potential flood hazards prior to approval of development projects and shall regulate development in urban and urbanizing areas per state law addressing 200-year level of flood protection.
- EC 2.1.14 **Levee and Floodway Encroachment Permit.** The City shall require applicants to secure an encroachment permit from the Central Valley Flood Protection Board for any project that falls within the jurisdiction regulated by the Board (e.g., levees, designated floodways).
- EC 2.1.15 **Levee Setbacks for New Development.** The City shall require adequate setbacks from flood control levees consistent with local, regional, State, and Federal design and management standards.
- EC 2.1.18 **Design and Operation of Critical Facilities.** The City shall require that critical facilities (e.g., emergency command centers, communication facilities, fire and police stations) and large public assembly facilities be designed to mitigate potential flood risk to ensure operation during a flood event. The City shall encourage non-City critical facilities (e.g., schools and County, State, and Federal buildings) be designed in a similar fashion.
- EC 2.1.20 **Roadway Systems as Escape Routes.** The City shall require that areas protected from flooding by levees be designed to provide multiple escape routes for residents and access for emergency services in the event of a levee or dam failure.
- EC 2.1.21 **Unobstructed Access to Levees.** The City shall provide unobstructed access, whenever feasible, on City-owned land to levees for maintenance and emergencies and require setbacks and easements for access to levees from private property.

As discussed below and in Impacts 4.13-1 through 4.13-8, development of the proposed projects, including the proposed KP Medical Center, MLS Stadium, and Stormwater Outfall, would be required to comply with City stormwater system design standards, including for collection, discharge, and water quality. In addition, the City requires that a project-specific stormwater design plan be submitted prior to development. With implementation of City standards, the proposed RSPU, KP Medical Center, MLS Stadium, and Stormwater Outfall would be consistent with the General Plan goals and policies.

Stormwater Quality/Urban Runoff Management

The County of Sacramento and the cities of Sacramento, Folsom, Citrus Heights, Elk Grove, Rancho Cordova, and Galt have a joint Phase I MS4 Permit (CVRWQCB Order No. R5-2015-0023, NPDES Permit No. CAS082597) that was re-issued on April 17, 2015. Collectively, these jurisdictions are referred to as the Sacramento Stormwater Quality Partnership (Partnership). The MS4 Permit is intended to implement the Basin Plan through the effective implementation of BMPs to reduce pollutants in stormwater discharges to the maximum extent practicable. The permittees listed under the joint permit have the authority to develop, administer, implement, and enforce storm water management programs within their own jurisdiction.

Urban storm water runoff is defined in the MS4 Permit as including stormwater and dry weather flows from a drainage area that reaches a receiving water body or subsurface. The permit regulates the discharge of all wet and dry weather urban storm water runoff within the City of

Sacramento and requires the City to implement a stormwater management program to reduce pollutants in stormwater to the maximum extent practicable. In response, the City of Sacramento and the other Permittees created the Stormwater Quality Improvement Plan (SQIP) to address the MS4 permit requirements and reduce the pollution carried by stormwater into local creeks and rivers. The program includes pollution reduction activities for construction sites, industrial sites, illegal discharges and illicit connections, new development, and municipal operations. The program also includes an extensive public education effort, target pollutant reduction strategy and monitoring program. The SQIP also outlines the priorities, key elements, strategies, and evaluation methods of the program.¹⁵

The specific BMPs that are appropriate for a project to meet the requirement of reducing the discharge of pollutants to the maximum extent practicable are site specific. During the design process, the appropriate required measures and Low Impact Development (LID)¹⁶ strategies are selected and incorporated into project plans. The County of Sacramento and the cities of Sacramento, Folsom, Citrus Heights, Elk Grove, Rancho Cordova, Galt, and Roseville collaboratively published the Stormwater Quality Design Manual for Sacramento and South Placer Regions (May 2007) to meet MS4 Permit requirements and to provide clear guidance for project applicants on how to incorporate BMPs that achieve permit compliance.¹⁷ The 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 following are required items for each of the local permitting agencies as specified in the new development element provisions of the MS4 permit:

- the types of projects subject to the development standards and thresholds for determining what types of control measures apply to the project;
- maintenance agreements or covenants are required for selected control measures; and
- sizing methodology for water quality flow (WQF) -based measures (e.g., vegetated swale) and water quality volume WQV-based measures (e.g., water quality detention basin).

The Sacramento Stormwater Quality Partnership Hydromodification Management Plan (HMP) was released in July 2011 to provide an additional resource for stormwater management strategies. The HMP was subsequently revised in February 2013 to address CVRWQCB comments and is expected to be approved in 2016. The HMP includes hydromodification management exemption criteria that apply to this project, but has not been approved by the CVRWQCB yet.

¹⁵ County of Sacramento and the Cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova, 2009. *Stormwater Quality Improvement Plan*. April 2009. pp. 1-1 to 1-16.

¹⁶ Low Impact Development uses site design and stormwater management to maintain pre-development runoff rates and volumes through the use of decentralized design techniques that infiltrate, filter, store, evaporate, and detain runoff.

¹⁷ Cities of Citrus Heights, Elk Grove, Folsom, Galt, Rancho Cordova, Roseville, Sacramento and the Sacramento County. 2007. *Stormwater Quality Design Manual for the Sacramento and South Placer Regions*. May 2007. pp. 1-1 to 1-8.

Dewatering

All new groundwater discharges to the CSS or separated sewer system are regulated and monitored by the City's Utilities Department pursuant to Department of Utilities Engineering Services Policy No. 0001, adopted as Resolution No. 92-439 by the Sacramento City Council. Groundwater discharges to the City's sewer system are defined as construction dewatering discharges, foundation or basement dewatering discharges, treated or untreated contaminated groundwater cleanup, discharges, and uncontaminated groundwater discharges.

The City requires that any short-term discharge be permitted, or an approved Memorandum of Understanding (MOU) for long-term discharges be established, between the discharger and the City. Short-term limited discharges of seven days duration or less must be approved through the City Department of Utilities by acceptance letter. Long-term discharges of greater duration than seven days must be approved through the City Department of Utilities and the Director of the Department of Utilities through a MOU process. The MOU must specify the type of groundwater discharge, flow rates, discharge system design, a City-approved contaminant assessment of the proposed groundwater discharge indicating tested levels of constituents, and a City-approved effluent monitoring plan to ensure contaminant levels remain in compliance with State standards or the Sacramento County Regional Sanitation District (RegionalSan) and CVRWQCB-approved levels. All groundwater discharges to the sewer must be granted a RegionalSan discharge permit. Dischargers must file a NOI with the CVRWQCB and obtain all necessary approvals prior to commencing any discharges of wastewater. Impacts associated with construction dewatering are addressed entirely within Section 4.8, Hazards and Hazardous Materials. Impacts associated with construction dewatering and contaminated groundwater are addressed in Section 4.8, Hazards and Hazardous Materials.

Wastewater Discharges

Chapter 13.08 of the Sacramento City Code prohibits the discharge of any substances, materials, waters, or waste if the discharge would violate any sewer use ordinance enacted by the RegionalSan. Section 13.08.040 of the Sacramento City Code identifies specific waters, wastes, and substances that may not be discharged to the sewer.

Any discharge into the CSS must have a Sewer Use Questionnaire on file with the RegionalSan, which would apply to the Specific Plan project. The RegionalSan has adopted a Sewer Use Ordinance that regulates the use of public sewers connected to the SRWTP. The wastewater discharged from the SRWTP to Sacramento River is regulated under a NPDES permit issued by the RWQCB. Discharge limitations are specified in the permit to limit water quality impacts in the Sacramento River. Categorical Pretreatment Standards have also been established for the pretreatment of certain classes of industrial wastes discharged to publicly owned treatment works, such as the SRWTP. The purpose of these standards is to protect the SRWTP and the environment by regulating potentially harmful discharges to the sewer from industrial and commercial business. Impacts associated with capacity of the CSS and the RegionalSan are addressed in Section 4.13, Utilities.

Construction Site Runoff Management

In accordance with NPDES regulations, to minimize the potential effects of construction runoff on receiving water quality, the state requires that any construction activity affecting one acre or more obtain coverage under a General Construction Activity Stormwater Permit (General Construction Permit). The current General Construction Permit is the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ, NPDES No. CAS000002, effective July 1, 2010. General Construction Permit applicants are required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) which includes implementing BMPs to reduce construction effects on receiving water quality by implementing erosion and sediment control measures and reducing or eliminating non-stormwater discharges. Examples of typical construction BMPs included in SWPPPs include, but are not limited to: using temporary mulching, seeding, or other suitable stabilization measures to protect uncovered soils; storing materials and equipment so as to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan; and installing sediment control devices such as gravel bags, inlet filters, fiber rolls, or silt fences to reduce or eliminate sediment and other pollutants from discharging to the City drainage system or receiving waters.

Construction activity that results in soil disturbances of less than one acre is subject to the General Construction Permit if there is potential for significant water quality impairment resulting from the activity as determined by the Regional Water Quality Control Board (RWQCB). The City review process in terms of construction management and water quality for projects on sites less than one acre mirrors the process for sites larger than one acre. The City of Sacramento requires an erosion and sediment control plan and standard construction BMPs for other pollutants are required for construction sites less than one acre.

City of Sacramento Construction Site Stormwater Controls

The City's Grading, Erosion and Sediment Control Ordinance requires project applicants to prepare erosion, sediment and pollution control plans for both during and after construction of a project, and grading plans. The Ordinance applies to projects where 50 cubic yards or more of soil is excavated and/or disposed and requires BMPs that must be approved of by the City's Department of Utilities. In addition, the City's Stormwater Management and Discharge Control Ordinance minimizes or eliminates sediment and pollutants in construction site stormwater discharges.

Sacramento Flood Control Agency

The Sacramento Area Flood Control Agency (SAFCA) was formed to address the Sacramento area's vulnerability to catastrophic flooding. This vulnerability was exposed during the record flood of 1986 when Folsom Dam exceeded its normal flood control storage capacity and several area levees nearly collapsed under the strain of the storm. In response, the City of Sacramento, the County of Sacramento, the County of Sutter, the American River Flood Control District and Reclamation District 1000 created SAFCA through a Joint Exercise of Powers Agreement to provide the Sacramento region with increased flood protection along the American and

Sacramento rivers. SAFCA's mission is to provide the region with at least a 100-year level of flood protection as quickly as possible while seeking a 200-year or greater level of protection over time. Under the Sacramento Area Flood Control Agency Act of 1990, the California Legislature has given SAFCA broad authority to finance flood control projects and has directed the Agency to carry out its flood control responsibilities in ways that provide optimum protection to the natural environment.

4.9.3 Analysis, Impacts, and Mitigation

Significance Criteria

The following significance criteria were identified in the 2007 RSP Draft EIR, and are used in this analysis. These criteria are also similar to the City's 2035 General Plan EIR and Initial Study Checklist.

This EIR assumes implementation of the proposed project would have a significant impact related to geology, soils, and seismicity if it would:

- Substantially degrade water quality and violate any water quality objectives set by the State Water Resources Control Board, due to increases in sediments and other contaminants generated by construction and/or development of the project;
- Substantially increase the exposure of people and/or property to the risk of injury and damage in the event of a 100-year flood;
- Expose people or property to flood hazards; or
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

Methodology and Assumptions

Analysis of potential hydrology and water quality impacts is based on review of the RSPU design and intended uses and information developed by the applicant's engineer to establish existing conditions and to identify potential environmental effects, based on the standards of significance presented in this section.

Impacts on surface and groundwater quality were analyzed by reviewing existing groundwater and surface water quality reports that pertain to the RSP Area, identifying existing onsite ground and surface waters, including the depth to groundwater, and evaluating existing and potential sources of water quality pollutants based on the types of land uses and operational activities in the RSPU. Additionally, the applicability of federal and state regulations, ordinances, and/or standards to surface and groundwater quality of the RSP Area and subsequent receiving waters were assessed. Potential impacts from implementation of the RSPU were determined by

evaluating whether development of the RSPU land uses would exceed the thresholds of significance outlined above.

Impacts on water quality are assessed as a function of potential pollutant types, concentrations, and load (effects of flow volume changes). These are evaluated qualitatively because specific design characteristics and land uses could affect the amount, type, and susceptibility to runoff of potential pollutants.

Issues Not Discussed in Impacts

This section addresses all of the issues identified in the Significance Criteria, and addressed in the 2007 RSP EIR Hydrology and Water Quality section.

Impacts and Mitigation Measures

Impact 4.9-1: The proposed projects could degrade water quality during construction.

Railyards Specific Plan Update

The 2007 RSP EIR discussed impacts with respect to water quality on pages 6.6-19 to 6.6-21, and found that earth-disturbing construction activities could substantially increase the potential for soil erosion and sedimentation in runoff discharging from the site during a rainstorm.

Construction equipment would have the potential to leak polluting materials, including oil and gasoline, which could pose a threat to surface or groundwater quality. Through stormwater runoff, these sediments and contaminants could be transported to the Sacramento River and its downstream drainages and water bodies. However, the EIR found that the erosion, siltation, and discharges of construction-related hazardous materials could be minimized by compliance with NPDES requirements and implementation of a Spill Prevention and Control Program (SPCP).

Similar to the 2007 RSP EIR, construction of the RSPU would result in land-disturbing activities such as grading, excavation, and trenching for utility and infrastructure installation. When portions of the RSPU are excavated or otherwise disturbed by construction activities, the potential for soil erosion and sedimentation in runoff discharging from the site would substantially increase during a rainstorm. In addition, construction equipment would have the potential to leak polluting materials, including oil and gasoline. Improper use of fuels, oils, and other construction-related hazardous materials such as pipe sealant may also pose a threat to surface or groundwater quality. Through stormwater runoff, these sediments and contaminants may be transported to the Sacramento River and its downstream drainages and water bodies.

Although earth-disturbing activities associated with construction of the RSPU would be temporary, on- or offsite soil erosion, siltation, discharges of construction-related hazardous materials could degrade downstream surface waters. As discussed in detail below, compliance with existing state and City regulations would ensure that these activities would not substantially degrade water quality.

Construction

The use of construction equipment and other vehicles could result in spills of oil, grease, gasoline, brake fluid, antifreeze, or other vehicle-related fluids and pollutants. Improper handling, storage, or disposal of fuels and materials or improper cleaning of machinery could result in accidental spills or discharges that could degrade water quality. Regarding construction dewatering, sediment impairment of receiving waters could result if dewatering discharge is sediment laden. The effects of construction dewatering in areas of contaminated groundwater are addressed in section 4.6, Hazards and Hazardous Materials.

As discussed in the Regulatory Setting above, the proposed projects are required to comply with a number of regulations designed to reduce or eliminate construction-related water quality effects, including the NPDES General Construction Permit; Grading, Erosion and Sediment Control Ordinance; and project-specific dewatering discharge permit. Before the onset of any construction activities, an application for coverage under the General Construction Permit and an erosion and sediment control plan must be submitted to the City. Before construction may begin, a SWPPP would be developed and a NOI filed with the CVRWQCB. After approvals of coverage under the General Construction Permit, the erosion and sediment control plan, and the SWPPP are developed, construction would commence and include all BMPs outlined in the erosion and sediment control plan and SWPPP. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater and other non-point source runoff. The City would complete inspections to verify that the erosion and sediment control plan and SWPPP are implemented correctly.

The City would also require erosion and sediment control plans to include BMPs to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during construction activities for all contractors. Implementation of these measures would comply with state and federal water quality regulations. The federal reportable spill quantity for petroleum products, as defined in 40 CFR 110, is any oil spill that:

- violates applicable water quality standards;
- causes a film or sheen on, or discoloration of, the water surface or adjoining shoreline; or
- causes a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines.

If a spill occurs, the contractor's superintendent would notify the City, and the contractor would take action to contact the appropriate safety and clean-up crews to ensure that the City-approved and contractor prepared Spill Prevention and Control Program (SPCP) is followed. In addition, the City would respond and investigate any spills reported. A written description of reportable releases would be submitted to the CVRWQCB and the Department of Toxic Substances Control (DTSC) by the contractor or land owner. If an appreciable spill occurs and results determine that construction activities have adversely affected surface water or groundwater quality, a detailed

analysis would be performed to the specifications of DTSC to identify the likely cause of contamination. This analysis would include recommendations for reducing or eliminating the source or mechanisms of contamination. Based on this analysis, contractors would select and implement measures to control contamination, with a performance standard that surface and/or groundwater quality must be returned to baseline conditions. These measures would be subject to approval by the City and/or the CVRWQCB.

Prior to discharge of dewatered effluent, the contractor would be required to obtain a project-specific permit from the CVRWQCB that includes specific requirements and establishes discharge limits. Dischargers must file a NOI with the CVRWQCB and obtain all necessary approvals prior to commencing any discharges of wastewater. A project-specific permit is required because the RSP Area is located above areas of contaminated groundwater. Impacts associated with construction dewatering and contaminated groundwater are addressed entirely within section 4.8, Hazards and Hazardous Materials.

In light of the existing combination of developed and undeveloped conditions, compliance with the Grading, Erosion and Sediment Control Ordinance, NPDES General Construction Permit, and project-specific dewatering permit would prevent the substantial degradation of water quality during project construction. These regulatory instruments are designed to ensure that construction projects result in water quality discharges that are not in violation of CVRWQCB or City objectives.

For the above reasons, adherence to applicable regulations and standards would reduce water quality impacts to **less-than-significant levels**. This impact would be the similar to Impact 6.6-1 of the 2007 RSP DEIR.

Railyards Specific Plan Update Land Use Variant

Impacts for the Land Use Variant would be similar to the RSPU impact described above, because the same amount of ground would be disturbed, and a similar level of development would occur. As with the RSPU, implementation of regulatory measures would prevent substantial degradation of water quality, this impact would be **less than significant**.

KP Medical Center

Construction activities within the KP Medical Center site would be similar to those discussed above for the RSPU, but with a much-reduced footprint. As discussed above, improper handling, storage, or disposal of fuels and materials or improper cleaning of machinery could result in accidental spills or discharges that could degrade water quality. Considering the existing combination of developed and undeveloped conditions, compliance with the Grading, Erosion and Sediment Control Ordinance, NPDES General Construction Permit, and project-specific dewatering permit would prevent the substantial degradation of water quality during project construction and impacts would be **less than significant**.

MLS Stadium

Construction activities within the MLS site would be similar to those discussed above for the RSPU, but with a much-reduced footprint. As discussed above, improper handling, storage, or disposal of fuels and materials or improper cleaning of machinery could result in accidental spills or discharges that could degrade water quality. Considering the existing combination of developed and undeveloped conditions, compliance with the Grading, Erosion and Sediment Control Ordinance, NPDES General Construction Permit, and project-specific dewatering permit would prevent the substantial degradation of water quality during project construction and impacts would be **less than significant**.

Stormwater Outfall

The offsite Outfall would involve construction adjacent to the Sacramento River. Waterside construction would require more stringent measures to prevent contaminated runoff directly into the river. Construction activities within the Stormwater Outfall site would be similar to those discussed above for the RSP Area, but with a much reduced footprint and include in-water construction efforts. As discussed above for the RSP Area, improper handling, storage, or disposal of fuels and materials or improper cleaning of machinery could result in accidental spills or discharges that could degrade water quality. Compliance with the Grading, Erosion and Sediment Control Ordinance, NPDES General Construction Permit, and project-specific dewatering permit would prevent the substantial degradation of water quality during project construction and impacts would be less than significant. As with the other components in the RSP Area, regulatory compliance would prevent the substantial degradation of water quality during project construction, and this impact would be **less than significant**.

Summary

Compliance with existing regulatory framework that addresses construction impacts on water quality from development pursuant to the proposed RSPU, including the RSPU Land Use Variant, KP Medical Center, MLS Stadium, or Stormwater Outfall would result in **less than significant** impacts.

The magnitude of this impact is the same as that described in Impact 6.6-1 in the 2007 RSP EIR.

Mitigation Measure

None required.

Impact 4.9-2: Operation of the proposed projects could generate new sources of polluted runoff.***Railyards Specific Plan Update***

The 2007 RSP EIR discussed impacts with respect to polluted runoff and waste discharge requirements for receiving waters on pages 6.6-21 to 6.6-22, and found that the RSP would result in an increase in impervious surfaces and would increase stormwater and non-stormwater runoff entering the Sacramento River and CSS compared to existing conditions. The EIR outlined a drainage concept plan based on the use of a gravity system of pipelines and inlets that would drain to an underground detention basin, referred to as a cistern. The cistern would have stored approximately 27 acre-feet of water and would be pumped at about five cubic feet per second rate into the CSS. The EIR found that post-project runoff would contain varying types and amounts of chemical constituents typical of urban runoff, such as pesticides, metals, and fecal coliform.

These activities were required to meet the City's NPDES Permit requirements, which would include implementation of BMPs to maximize reduction of the pollutants of concern. The 2007 RSP EIR discussed implementation of a mitigation measure to ensure that the cistern would meet water quality standards set by the City and the CVRWQCB. However, this mitigation measure is no longer applicable because the cistern was not built and is not proposed as part of the RSPU. The RSPU proposes construction of an outfall to accommodate the needs of the Railyards stormwater drainage system and to meet the requirements of the City and relevant regulatory agencies. Once built, the Stormwater Outfall would be sized to accommodate all stormwater runoff from the RSP Area, pursuant to City design standards.

However, initial project development on the RSP Area could advance before the pump and outfall are constructed and operated. The RSPU would implement an interim stormwater system to capture the increases in surface runoff from project development. One existing retention basin south and adjacent to Railyards Boulevard and west of 7th Street as well as additional temporary retention basins could be built within the RSP Area to capture runoff from various areas within the RSP Area (see Figure 4.13-2 in Section 4.13, Utilities). These basins would be designed to retain stormwater runoff from a 10-day 100-year storm event. After the storm event, the basin(s) would discharge to the CSS. A temporary pump and pipeline would be constructed to discharge stormwater from the retention basin(s) into the CSS at 3rd Street at a rate of 1.0 cubic foot per second (cfs). Discharges could temporarily be increased to 2.24 cfs if the groundwater remediation system at the Central Shops was turned off. Because of the volume of the basin(s), it could take several weeks to fully discharge stormwater from the 10-day 100-year event. If an additional storm event occurs prior to the basins being emptied, there is the potential that the basins could overflow. More information and analysis regarding the size and capacity of the CSS to accept additional stormwater flows is discussed in Section 4.13, Utilities. Should the 3rd Street Relief Sewer be constructed and operational before the Stormwater Outfall was operational, discharges from the temporary retention basins could be increased up to the maximum wastewater discharge rate of the RSPU as a temporary solution.

During occupation and operation of the proposed project, runoff from the RSP Area would contain pollutants common in urban runoff including metals, oils and grease, pesticides, herbicides, nutrients, pet waste, and trash. Without BMPs to remove these pollutants, stormwater leaving the RSP Area could degrade the quality of receiving waters. The City of Sacramento currently implements the SQIP, which is designed to reduce stormwater pollution to the maximum extent practicable and eliminate prohibited non-stormwater discharges through a NPDES municipal stormwater discharge permit. The City of Sacramento also provides direction on post-construction BMPs in the Stormwater Quality Design Manual for the Sacramento and South Placer Regions. The proposed projects would be subject to City of Sacramento General Plan policies U 4.1.4, ER 1.1.3, ER 1.1.4, and ER 1.1.7; the City's ordinances; the Stormwater Quality Design Manual for Sacramento and South Placer Regions; and the MS4 Permit prior to approval of design and construction of the stormwater outfall that would serve the RSP Area. Specifically, the project would be required to comply with the following permits and plans:

- NPDES Municipal Separate Storm Sewer System Permit (No. CAS082597);
- Stormwater Quality Design Manual for the Sacramento and South Placer Regions (Design Manual) BMPs, and LID measures to reduce pollutants in storm water and non-stormwater discharges to the Maximum Extent Practicable;
- City of Sacramento Stormwater Management and Discharge Control Code; and
- City of Sacramento General Plan policies related to hydrology and water quality, and the protection and preservation of natural resources.

Permanent onsite water quality treatment meeting the requirements specified in the Stormwater Quality Design Manual for the Sacramento and South Placer Regions will be required for any surface drainage from the RSP Area. Specific BMPs have been proposed in the Railyards Stormwater Quality Management Plant that are approved for use in the City for treatment control, such as stormwater planters, bioretention filters, and stormwater filters in catch basins. Other potential BMPs for use on private parcels have not been identified because project design is in an early phase and the kinds of BMPs used on each site would differ based on design-level details. The project development process includes identification of BMPs that respond to the design and construction methods within each area of the RSP. The BMPs would be implemented to ensure that water quality would not be degraded and the violation of water quality or waste discharge objectives set by the CVRWQCB would not occur. City review would confirm that BMP implementation complies with all applicable regulations. Given that regulations are in place to ensure that the project would not result in an impact to water quality, this impact would be less than significant.

The effects of the 2016 RSPU would be equal to the effects of the 2007 RSP, because similar areas would be disturbed, and project development would comply with federal, State and local

water quality regulations. The impact would be **less than significant** with implementation of applicable regulations.

Railyards Specific Plan Update Land Use Variant

Impacts for the Land Use Variant would be similar to those of the RSPU, and would be required to implement the same regulatory measures to prevent degradation of water quality. The effects of the Land Use Variant would be similar to the effects of the 2007 RSP, and this impact would be **less than significant**.

KP Medical Center

Impacts for occupation and operation of the KP Medical Center would be similar to those discussed above for the RSP Area, but with a much reduced footprint. During operation, runoff from the project site would contain pollutants common in urban runoff including metals, oils and grease, pesticides, herbicides, nutrients, and trash. As described above for the RSP Area, treatment control and LID regulations are in place to ensure that the project would not result in an impact to water quality, effects of the KP Medical Center would be similar to the effects of the 2007 RSP, and this impact would be **less than significant**.

MLS Stadium

Impacts for occupation and operation of the MLS Stadium would be similar to those discussed above for the RSP Area, but with a much reduced footprint. During operation, runoff from the project site would contain pollutants common in urban runoff including metals, oils and grease, pesticides, herbicides, nutrients, and trash. As described above for the RSP Area, treatment control and LID regulations are in place to ensure that the project would not result in an impact to water quality, effects of the MLS Stadium would be similar to the effects of the 2007 RSP, and this impact would be **less than significant**.

Stormwater Outfall

The 100-year peak design flow for the proposed pump station would be approximately 200,000 gallons per minute (450 cubic feet per second). The pump station would be able to pump a minimum of 400 cfs with any single pump out of commission. The five vertical turbine pumps would discharge into seven discharge force mains and ultimately into the Sacramento River. Post-construction maintenance activities would be limited to the outfall structure itself, approximately 0.06 acres. During operation, the pipes would discharge at a headwall that would be located in the river, and which would be designed to minimize hydraulic impact to the flow in the river. The discharge end of the pipes would include flap gates or other closure devices to prevent backflow when the pump station is not operating. The pipe inverts at the discharge headwall would be located at an elevation of 7.0 foot (NAVD), which would typically be above the summer water surface to allow for maintenance, but submerged during higher flows in the winter (see Figure 2-47 in Chapter 2). The water that would be discharged from the outfall would be required to comply with water quality standards for discharge to the Sacramento River set forth in the NPDES MS4 Permit and CWA Section 401 Water Quality Certification. The proposed

Stormwater Outfall would be monitored under existing regulations, and would not substantially degrade water quality. This impact would be **less than significant**.

Summary

Compliance with existing regulatory framework that addresses impacts from occupation and operation on water quality from development pursuant to the proposed projects, including the RSPU Land Use Variant, KP Medical Center, MLS Stadium, or Stormwater Outfall would result in **less than significant** impacts.

The magnitude of this impact would similar to Impact 6.6-2 in the 2007 RSP EIR, because a similar area would be disturbed, and compliance with federal, State and local regulations would protect water quality.

Mitigation Measure

None required.

Impact 4.9-3: The proposed projects could expose people or property to an increased risk of flood hazards.

Railyards Specific Plan Update

The 2007 RSP Draft EIR discussed impacts with respect to flood hazards on pages 6.6-23 to 6.6-24, and found that the RSP Area was outside the FEMA 100-year floodplain due to its topographic elevation. The 2007 RSP included development along the Sacramento River levee, and found that it would be vital to continue to properly maintain the levee to the level prescribed by the USACE, FEMA, SAFCA, and DWR. Studies done by regulatory agencies such as DWR, SAFCA, and the USACE at the time of the 2007 RSP project examined levee stability along the Sacramento and American rivers to enhance flood protection to a 200-year level flood event, and found that construction on or through that embankment was not considered as an impact on the flood damage reduction provided by the levees along the rivers. However, construction of project-related structures or improvements on or near the levees could adversely affect levee integrity and could reduce protection for the area. The 2007 RSP EIR found that the project would be required to comply with the Rivers and Harbors Act, Clean Water Act (33 U.S.C. 408), and federal regulations governing development in floodplains (Title 44, Part 60 of the Code of Federal Regulations), DWR and USACE regulations on levee stability, safety, and maintenance criteria which would reduce impacts to a less-than-significant level.

As indicated in the 2007 RSP EIR, the majority of the RSP Area is identified on the FEMA FIRM map within an area outside of the 100-year floodplain due to the elevation of the North B Street and UPRR tracks embankments. Only a small portion of the RSP Area (on the east bank of the Sacramento River) is within the FEMA 100-year floodplain. A recent study done for the City

shows that the North B Street embankment could provide some added level of protection from flooding if there were a levee failure along the American River north of the RSP Area. However, the study concludes that the underlying foundation of the embankment is likely constructed of sandy soil that could result in failure along the embankment under those conditions.¹⁸ Because of the recent upgrades made by SAFCA to improve levee stability, current efforts by SAFCA to increase the levee system to meet the 200-year level of protection pursuant to the goals of SB 5, and the completion of the Folsom Joint Federal Project at Folsom Dam to control flows in the American River for flood protection, the risk of levee failure along the American River in the future is extremely low. Further, the proposed project would increase the height along the UPRR tracks and raise the elevation at the pedestrian tunnels to the 31 foot elevation msl using the National Geodetic Vertical Datum 29 (NGVD29), and include a flood gate structure at the 7th Street underpass to maintain the added level of flood protection that the North B Street embankment provides. Therefore, lowering the elevation of the North B Street embankment would not result in a change to the overall flood protection levels within the RSP Area or other areas of the City provided by the flood protection system and would not change the FEMA FIRM designations.

The 2007 RSP EIR found that the proposed cistern would prevent increases in on- or off-site flooding by providing enough storage volume to detain the 10- and 100-year 6-hour stormwater runoff volumes, as required by the Department of Utilities' Procedures Manual. Detained stormwater in the cistern would be released after the peak flow in the Sacramento River and would not result in measurable increases in water surface elevation in the river. No mitigation measures were required for the 2007 RSP components for flooding impacts.

The RSPU proposes construction of an outfall to accommodate the needs of the Railyards stormwater drainage system and to meet the requirements of the City and relevant regulatory agencies, including through application of a Section 408 approval from USACE and an encroachment permit from the CVFPB prior to construction on or near the levee right-of-way along the Sacramento River. Once built, the Stormwater Outfall would be sized to accommodate all stormwater runoff from the RSP Area, pursuant to City design standards, with a 100-year peak design flow of approximately 200,000 gallons per minute (450 cfs). Because protection from the 100-year flood would be maintained, and the drainage system would be built to City standards, at buildout, the impact of potential exposure to flooding would be less than significant.

However, initial project development in the RSP Area could advance before the Stormwater Outfall is constructed and operated. If the Stormwater Outfall is not operational, the proposed projects would implement an interim stormwater system, as described previously, to capture the increases in surface runoff from project development into the existing retention basin south and adjacent to Railyards Boulevard and west of 7th Street and/or additional retention basin to serve the area east of 7th Street. Stormwater would be collected in the proposed retention basin(s)

¹⁸ GEI Consultants, Inc. Technical Memorandum: Assessment of the North B Street Embankment to Mr. Bill Busath, City of Sacramento Department of Utilities Director. February 15, 2016.

designed and sized appropriately to meet the City's stormwater retention criteria to contain flows from the 10-day 100-year storm event. The retention basin(s) would be outfitted with temporary pumps and discharge pipes for discharge to the CSS limited to 1.0 cfs, or 2.24 cfs if the groundwater remediation system was shut off, after storms to make storage space for the next storm(s). If an additional storm event occurs prior to the basins being emptied, there is the potential that the basins could overflow. More information and analysis regarding the size and capacity of the CSS to accept additional stormwater flows is discussed in Section 4.13, Utilities.

The retention basins would remain in place until construction and operation of the Stormwater Outfall, as designed in The Railyards Drainage Master Plan, to prevent on-site localized flooding during storm events. See Section 4.13, Utilities for a discussion of capacity of the retention basins. Although sized according to the City design criteria, the retention basins may not have sufficient quantity to contain stormwater runoff from storms that occur subsequent to the design storm and before the pumps have emptied the retention basins, because of limitation on discharge to the CSS. Should the 3rd Street Relief Sewer be constructed and operational before the Stormwater Outfall was operational, discharges from the temporary retention basins could be increased up to the maximum wastewater discharge rate of the RSPU as a temporary solution. Therefore, the proposed project would not expose people or structures to an increased risk of flooding because of flood control structures and the operation of interim stormwater detention basins would not result in localized flooding and this impact would be **less than significant**.

Railyards Specific Plan Update Land Use Variant

Impacts for the Land Use Variant would be the same as the RSPU impact, as it would implement the same stormwater drainage system and would not result in a change to the floodplain designation of the site, and this impact would be **less than significant**.

KP Medical Center

Impacts for the KP Medical Center would be the same as the RSPU with regards to FEMA floodplain designation, as it would not result in a change to the floodplain designation of the site. In addition, impacts from localized flooding would be the same as the RSPU relative to operation of interim retention basin. If construction of the KP Medical Center was initiated before completion of the Stormwater Outfall or 3rd Street Relief Sewer, the retention basin south of Railyards Blvd. would be expanded to contain flows from the KP Medical Center area, and operate under the same criteria as discussed above for the RSPU until the Stormwater Outfall is in operation. Once the Stormwater Outfall is completed all stormwater from the KP Medical Center site would be discharged directly to the Sacramento River, preventing localized flooding and impacts would be **less than significant**.

MLS Stadium

Impacts for the MLS Stadium would be the same as the RSPU impact with regards to FEMA floodplain designation, as it would not result in a change to the floodplain designation of the site. In addition, impacts from localized flooding would be the same as the RSPU relative to operation

of interim retention basins. If construction of the MLS Stadium was initiated before completion of the Stormwater Outfall or 3rd Street Relief Sewer, a retention basin would be constructed adjacent to and west of 8th Street to contain flows from the MLS Stadium area, and operate under the same criteria, and discharge as discussed above for the RSPU until the Stormwater Outfall is in operation. Once the Stormwater Outfall is completed all stormwater from the MLS Stadium site would be discharged directly to the Sacramento River, preventing localized flooding and impacts would be **less than significant**.

Stormwater Outfall

The Stormwater Outfall would be designed to City standards, with a 100-year peak design flow of approximately 200,000 gallons per minute (450 cubic feet per second). It would pump and discharge stormwater flows away from the RSP Area and into the Sacramento River, thereby preventing localized flooding on the project site. The Stormwater Outfall would not result in a change to the floodplain designation of the site, and there would be **no impact**.

Summary

The RSP Area is within an area protected from the flooding, and the proposed interim drainage system would be designed with sufficient capacity to prevent localized flooding to the proposed RSPU, RSPU Land Use Variant, KP Medical Center, and MLS Stadium, and impacts would be **less than significant**. The Stormwater Outfall would have no impact.

The magnitude of this impact is less than that described in Impact 6.6-4 in the 2007 RSP EIR, because of there is no potential for localized flooding prior to construction of the stormwater outfall.

Mitigation Measure

None required.

Impact 4.9-4: The proposed projects could adversely affect groundwater supplies, groundwater quality and/or interfere with groundwater recharge.

Railyards Specific Plan Update

The 2007 RSP EIR discussed impacts with respect to depletion of groundwater supplies and groundwater recharge on pages 6.6-22 to 6.6-23, and found that although the RSP would not use groundwater as a supply, the project would substantially increase the amount of impervious surfaces and hence would reduce the ability for precipitation to percolate to the aquifer, thereby reducing groundwater recharge. However, this reduction was not considered a substantial concern because the RSP Area was not identified as a primary groundwater recharge area, the presence of shallow groundwater results in the reduced ability for use of groundwater for potable uses, and aquifer recharge in the area is driven primarily by deep percolation from local waterways, such as

the Sacramento River. The same holds true for the 2016 RSPU. The RSPU would not use groundwater as a supply, and similar to the 2007 RSP, the RSPU would result in a substantial increase in impervious surfaces. However, for the same reasons given in the 2007 RSP EIR, the RSPU would not adversely affect groundwater recharge because the main sources for groundwater recharge in the groundwater basin are the Sacramento and American rivers.

The 2007 RSP EIR concluded that implementation of City's Standard Specifications for Dewatering, the CVRWQCB's General Dewatering Permit, and NPDES General Construction Permit BMPs would prevent impacts to groundwater quality during construction, which would be the same requirement for the RSPU. Further, once construction is complete, no dewatering would occur within the RSP Area. Compliance with the same regulations discussed above in Impact 4.9-2 would also result in implementation of BMPs for source control and for source treatment to prevent contamination in stormwater runoff. Issues regarding dewatering and soil foundation conditions can be found in Section 4.6, Seismicity, Soils, Geology, and Mineral Resources, and issues related to dewatering and hazardous materials can be found in section 4.8, Hazards and Hazardous Materials.

For the above reasons, the RSPU would result in **less-than-significant** impacts on groundwater quality, supplies, or recharge. This impact would be similar to Impact 6.6-3 of the 2007 RSP EIR.

Railyards Specific Plan Update Land Use Variant

Impacts for the Land Use Variant would be the same as the RSPU impacts, as it would be required to implement the same regulatory measures to prevent degradation of groundwater quality during construction. Further, the Land Use Variant would not use groundwater supplies, and for the same reasons as o the effects of the 2007 RSP, it would not affect groundwater recharge. Therefore, the impact would be **less than significant**.

KP Medical Center

Impacts for the KP Medical Center would be the similar to RSPU impacts, as it would be required to implement the same regulatory measures to prevent degradation of groundwater quality during construction and to comply with dewatering regulations as stated above for the RSPU. Further, the KP Medical Center would not withdraw groundwater for water supply, and would not be located in an important recharge area. For these reasons, the impact would be **less than significant**.

MLS Stadium

Impacts for the MLS Stadium would be the similar to RSPU impacts, as it would be required to implement the same regulatory measures to prevent degradation of groundwater quality during construction and to comply with dewatering regulations as stated above for the RSPU. Further, the MLS Stadium would not withdraw groundwater for water supply, and is not located in an important groundwater recharge area. For these reasons, the impact would be **less than significant**.

Stormwater Outfall

Impacts for the Stormwater Outfall would be similar to RSPU impacts, as it would be required to implement the same regulatory measures to prevent degradation of groundwater quality during construction. Further, the Stormwater Outfall would not use groundwater supplies, and would not affect groundwater recharge, so this impact would be **less than significant**.

Summary

The proposed projects would not withdraw groundwater for water supply, and would not interfere with recharge of the groundwater basin. Development would be required to implement BMPs to prevent impacts to groundwater quality and to comply with dewatering regulations. Therefore, the proposed RSPU, including the RSPU Land Use Variant, KP Medical Center, MLS Stadium, or Stormwater Outfall would result in **less-than-significant** impacts.

The magnitude of this impact is the same as that described in Impact 6.6-3 in the 2007 RSP EIR.

Mitigation Measure

None required.

4.9.4 Cumulative Impacts

Project effects on water quality and hydrology must be considered in light of other past, present, and future projects that could add to the effects of the project, creating cumulative effects. These effects may be contributed to by development within the Sacramento River watershed, which extends well beyond the City of Sacramento limits. The cumulative context for water quality considers the geographic scope of the Basin Plan and, therefore, development within the larger Sacramento River watershed and the Sacramento–San Joaquin Delta (Delta). The Sacramento River watershed covers 27,000 square miles. The Delta extends for 24 miles from east to west and 48 miles from north to south where the Sacramento and San Joaquin rivers meet before discharging into the San Francisco Bay. The cumulative context for flooding impacts is also the Sacramento River watershed and Delta. With respect to groundwater, the cumulative context is the Central Sacramento County Groundwater Basin and North American Subbasin of the Sacramento Valley Groundwater Basin. Because impacts to stormwater infrastructure are more local in nature, the cumulative setting for impacts to stormwater conveyance is the City of Sacramento. Finally, the cumulative context for all impacts analyzed below assumes full buildout of the RSPU.

Impact 4.9-5: The proposed projects would contribute to the cumulative degradation of water quality.

Non-point source water pollution from the combination of past, present, and future projects in the Sacramento River watershed and Delta, including residential, commercial, and industrial land use and development, agriculture, parks, transit, infrastructure, and other land uses, could result in the

degradation of water quality in the Sacramento River watershed and Delta. Cumulative land development in the City of Sacramento, in addition to other development in the Sacramento River watershed and Delta, would result in an increase in impervious surfaces and potentially an increase in urban runoff and water pollutants, if not properly mitigated. Older land development that was constructed without BMPs to control the transport of water pollutants continues to represent a non-point source of polluted stormwater runoff. While agricultural runoff is regulated, it is a major non-point source of a variety of water pollutants. While new development is less likely to significantly degrade water quality because of existing regulations, older development, agriculture, and other non-point sources could impair receiving water quality. This is considered a significant cumulative impact.

The City of Sacramento currently implements the SQIP, which is designed to reduce stormwater pollution to the maximum extent practicable and eliminate prohibited non-stormwater discharges through its NPDES MS4 permit. The City of Sacramento also provides direction on post-construction BMPs in the Stormwater Quality Design Manual for the Sacramento and South Placer Regions. Development of the RSPU would be required to meet the following: City of Sacramento General Plan Policies U 4.1.4, ER 1.1.3, ER 1.1.4, and ER 1.1.7; the City's ordinances; the Stormwater Quality Design Manual for Sacramento and South Placer Regions; the NPDES General Construction Permit; CVRWQCB General Dewatering Permit; the City's MS4 Permit. As discussed under Impact 4.9-1 above, through compliance with these permits and plans, the RSPU would reduce project generation of stormwater pollutants to the maximum extent practicable consistent with the goal of the SWRCB and CVRWQCB water quality criteria and stormwater regulations through the use of structural and non-structural BMPs. Therefore, the proposed projects' contribution to the significant cumulative impact would be less than considerable, and this impact would be **less than significant**.

Mitigation Measure

None required.

Impact 4.9-6: The proposed projects could contribute to cumulative increases in the risk of flooding.

Cumulative development within the City of Sacramento and other portions of the Sacramento River watershed and Delta could substantially increase the exposure of people and/or property to flood risk, particularly if development is located within a FEMA floodplain. The Sacramento 2035 General Plan Master EIR identified growth within the City and region would increase population in the future.¹⁹ This growth would likely increase exposure to flood risk. This is considered a significant cumulative impact.

¹⁹ City of Sacramento, 2015. *City of Sacramento 2035 General Plan Master Environmental Impact Report* (SCH No. 2012122006). Certified March 2015.

As described above, the RSP Area is located within an areas designated by FEMA to be protected from the 100- and 500-year flood primarily by levees, and secondarily by the elevations, respectively. Construction of the RSP would result in changes in the elevation of the embankment, but would not reduce the FEMA floodplain designation within the RSP Area or other areas within the City, and would not change the levee system integrity. During operation, the project would not expose people or property to the risk of loss, injury, damage, or death in the event of a flood nor would it place structures that could impede or redirect flood flows within the floodplain during construction. Further, as described previously, policies proposed under the Sacramento 2035 General Plan include levee requirements, new development evaluations, and regional flood management planning efforts (Policies EC 2.1.2 through 2.1.21). Development projects would not be approved unless flood risk is consistent with plans that are aimed to provide a 200-year flood protection standard for the entire city (Policy EC 2.1.11) and would be consistent with on-going planning associated with the CVFPB. Therefore, the project would have a less-than-considerable contribution and this impact would be **less than significant**.

Mitigation Measure

None required.

Impact 4.9-7: The proposed projects could contribute to cumulative impact on groundwater supplies, quality, and recharge.

The Central Sacramento County Groundwater Management Plan includes groundwater supply and demand projections through 2030. The comparison of supply and demand shows that supplies should be sufficient to meet demands through 2030. The plan acknowledges that there are more factors than just supply and demand that determine whether a groundwater basin is managed sustainably, and groundwater management objectives are identified in the plan. Because the groundwater basin would be managed sustainably according to the plan, and to meet SGMA regulations, groundwater use would not exceed the calculated long-term average annual sustainable yield of 273,000 acre-feet per year.²⁰ Likewise, because groundwater recharge in the basin includes natural processes through percolation and hydraulic connectivity with the Sacramento and American River, and with conjunctive use or aquifer storage and recovery operations, groundwater levels in the basin would be managed to retain sustainable groundwater levels. However, while new development is less likely to significantly degrade groundwater quality because of existing regulations, older development, agriculture, and other non-point sources could impair groundwater quality. This is considered a significant cumulative impact. The proposed projects would not withdraw groundwater for water supply, or interfere with groundwater recharge. Development within the RSP Area would be required to meet the water quality regulations listed in Impact 4.9-5 to prevent degradation of groundwater quality.

²⁰ Water Forum, Sacramento County Water Agency, and MWH, 2006. *Central Sacramento County Groundwater Management Plan*. February 2006. pp. 2-22 – 2-23.

Therefore, the RSPU would have a less-than-considerable contribution and the impact would be **less than significant**.

Mitigation Measure

None required.