

**MITIGATED NEGATIVE DECLARATION**

The City of Sacramento, California, a municipal corporation, does hereby prepare, declare, and publish this Mitigated Negative Declaration for the following described project:

**Christian Brothers High School Sports Complex Renovation (P19-020)** The proposed project site is located at 4315 Martin Luther King Jr. Boulevard within the City of Sacramento (APNs: 020-0220-005 and -006), consists of the renovation of an existing sports stadium complex and sports field that would consist of the following components: new stadium lighting; new scoreboard; construction of bleachers with a 1,300-seat capacity; all-weather track and synthetic turf field; perimeter fencing; a new, covered stadium entryway; conduit pathway for future lighting; landscaping; irrigation; construction of a new parking lot; and construction of a new emergency access point. The proposed project would designate a portion of Martin Luther King Jr. Blvd. west of the project site for use as a student pick-up and drop-off location between the hours of 7 AM and 3 PM, at which time, parking would be prohibited.

The Lead Agency is the City of Sacramento. The City of Sacramento, Community Development Department, has reviewed the proposed project and, on the basis of the whole record before it, has determined that there is no substantial evidence that the project, with mitigation measures as identified in the attached Initial Study, will have a significant effect on the environment. This Mitigated Negative Declaration reflects the lead agency's independent judgment and analysis. An Environmental Impact Report is not required.


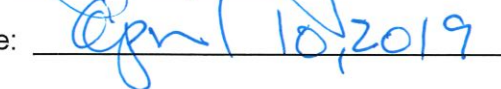
This Mitigated Negative Declaration has been prepared pursuant to the California Environmental Quality Act (Public Resources Code Sections 21000 et seq.), CEQA Guidelines (Title 14, Sections 15000 et seq. of the California Code of Regulations), the Sacramento Local Environmental Regulations (Resolution 91-892), and the Sacramento City Code.

A copy of this document and all supportive documentation may be reviewed or obtained at the City of Sacramento, Community Development Department, 300 Richards Boulevard, 3<sup>rd</sup> Floor, Sacramento, CA 95811 from 9:00 a.m. to 4:00 p.m.

Environmental Services Manager, City of Sacramento,  
California, a municipal corporation

By: \_\_\_\_\_

Date: \_\_\_\_\_

# **Christian Brothers High School Sports Complex Renovation P19-020**

## **Initial Study/Mitigated Negative Declaration**

PREPARED FOR THE  
CITY OF SACRAMENTO



PREPARED BY RANEY PLANNING & MANAGEMENT, INC.  
SACRAMENTO, CALIFORNIA

APRIL 2019

# CHRISTIAN BROTHERS HIGH SCHOOL SPORTS COMPLEX RENOVATION

## INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

This Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by the City of Sacramento, Community Development Department, 300 Richards Boulevard, Third Floor, Sacramento, CA 95811, pursuant to the California Environmental Quality Act (Public Resources Code Sections 21000 *et seq.*), CEQA Guidelines (Title 14, Section 15000 *et seq.* of the California Code of Regulations) and the Sacramento Local Environmental Regulations (Resolution 91-892) adopted by the City of Sacramento.

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### ORGANIZATION OF THE INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

This IS/MND is organized into the following sections:

**SECTION I - BACKGROUND:** Provides summary background information about the project name, location, sponsor, and the date this IS/MND was completed.

**SECTION II - PROJECT DESCRIPTION:** Includes a detailed description of the proposed project.

**SECTION III - ENVIRONMENTAL CHECKLIST AND DISCUSSION:** Reviews proposed project and states whether the project would have additional significant environmental effects (project-specific effects) that were not evaluated in the Master EIR for the 2035 General Plan.

**SECTION IV - ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:** Identifies which environmental factors were determined to have additional significant environmental effects.

**SECTION V - DETERMINATION:** States whether environmental effects associated with development of the proposed project are significant, and what, if any, added environmental documentation may be required.

**REFERENCES CITED:** Identifies source materials that were consulted in the preparation of the IS/MND.

**APPENDICES:** Appends technical information that was referenced as attached in the preparation of the IS/MND.

## SECTION I - BACKGROUND

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Project Name and File Number: Christian Brothers High School Sports Complex Renovation (P19-020)

Project Location: 4315 Martin Luther King Jr. Boulevard  
Sacramento, CA 95820  
Assessor's Parcel Number (APN) 020-0220-005

Project Applicant: Brian Huddleston  
Jackson Construction Inc.  
155 Cadillac Drive, Suite 100  
Sacramento, CA 95825  
(916) 870-5275  
[bhuddleston@jacksonprop.com](mailto:bhuddleston@jacksonprop.com)

Project Planner: Angel Anguiano  
(916) 808-5519  
[aanguiano@cityofsacramento.org](mailto:aanguiano@cityofsacramento.org)

Environmental Planner: Scott Johnson, Senior Planner  
(916) 808-5842  
[srjohnson@cityofsacramento.org](mailto:srjohnson@cityofsacramento.org)

Date Initial Study Completed: April 2018

This IS/MND was prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Sections 1500 *et seq.*). The Lead Agency is the City of Sacramento.

The City of Sacramento, Community Development Department, has reviewed the proposed project and, on the basis of the whole record before it, has determined that the proposed project would not result in any significant and unavoidable impacts. The initial study identifies new significant effects as well as mitigation measures that would reduce each such effect to a less-than-significant level. A Mitigated Negative Declaration is the appropriate CEQA document (CEQA Guidelines Section 15378(b)).

Policies included in the 2035 General Plan that reduce significant impacts identified in the 2035 General Plan Master EIR are identified and discussed as applicable within each section of this IS/MND. The mitigation monitoring plan for the 2035 General Plan, which provides references to applicable General Plan policies that reduce the environmental effects of development that may occur consistent with the 2035 General Plan, is included in the adopting resolution for the Master EIR. See City Council Resolution No. 2015-0060, beginning on page 60. The resolution is available on the City's website at:

<http://www.cityofsacramento.org/Community-Development/Resources/Online-Library/2035--General-Plan>



**CHRISTIAN BROTHERS HIGH SCHOOL SPORTS COMPLEX RENOVATION**  
**(P19-020)**  
INITIAL STUDY

The analysis contained in this IS/MND incorporates by reference the general discussion portions of the 2035 General Plan Master EIR (CEQA Guidelines Section 15150(a)). The Master EIR is available for public review at the City of Sacramento, Community Development Department, 300 Richards Boulevard, 3<sup>rd</sup> Floor, Sacramento, CA 95811, and on the City's web site at:

<http://www.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports>

All technical environmental studies utilized in preparation of this IS/MND are available for review at the City of Sacramento, Community Development Department, 300 Richards Boulevard, 3<sup>rd</sup> Floor, Sacramento, California.

The City will circulate a Notice of Availability/Notice of Intent (NOA/NOI) that confirms the City's intention to adopt the Mitigated Negative Declaration, and provides dates for public comment. The NOA/NOI will be available on the City's web site set forth above.

Please send written responses to:

Scott Johnson, Senior Planner  
Community Development Department  
City of Sacramento  
300 Richards Boulevard, 3<sup>rd</sup> Floor  
Sacramento, CA 95811  
Direct Line: (916) 808-5842  
srjohnson@cityofsacramento.org

## SECTION II - PROJECT DESCRIPTION

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### **Project Location**

The project site is located at 4315 Martin Luther King Jr. Boulevard in the City of Sacramento, California (see Figure 1 and Figure 2). The 24.25-acre project site is identified by APNs 020-0220-005 and -006. Regional access is provided by State Route (SR) 99.

### **Existing Conditions and Surrounding Uses**

The City of Sacramento 2035 General Plan designates the project site as Public/Quasi-Public. The current zoning designation for the project site Single Family Residential (R-1). The project site is currently developed with the Christian Brothers High School, which has operated as a private high school campus since opening in 1957. Existing on-site structures associated with the high school include 18 school buildings, two paved parking areas, a football/soccer field with perimeter track, a baseball diamond, a softball field, and various other campus amenities (see Figure 3).

Existing surrounding land uses include single-family residences to the north and east, commercial and single-family uses to the west across Martin Luther King Jr. Boulevard, and the William Memorial Church of God and Oak Ridge Elementary School to the south.

### **Project Description**

The proposed project would include the renovation of an existing sports stadium complex and sports field that would consist of the following components: new stadium lighting; new scoreboard; construction of bleachers with a 1,300-seat capacity; all-weather track and synthetic turf field; perimeter fencing; a new, covered stadium entryway; conduit pathway for future lighting; landscaping; irrigation; construction of a new parking lot; and construction of a new emergency access point (see Figure 4). In addition, the proposed project would designate a portion of Martin Luther King Jr. Boulevard west of the project site for use as a student pick-up and drop-off location that would operate between the hours of 7:00 AM and 3:00 PM. Parking would be prohibited within the proposed student pick-up and drop-off location during the hours of school operation.

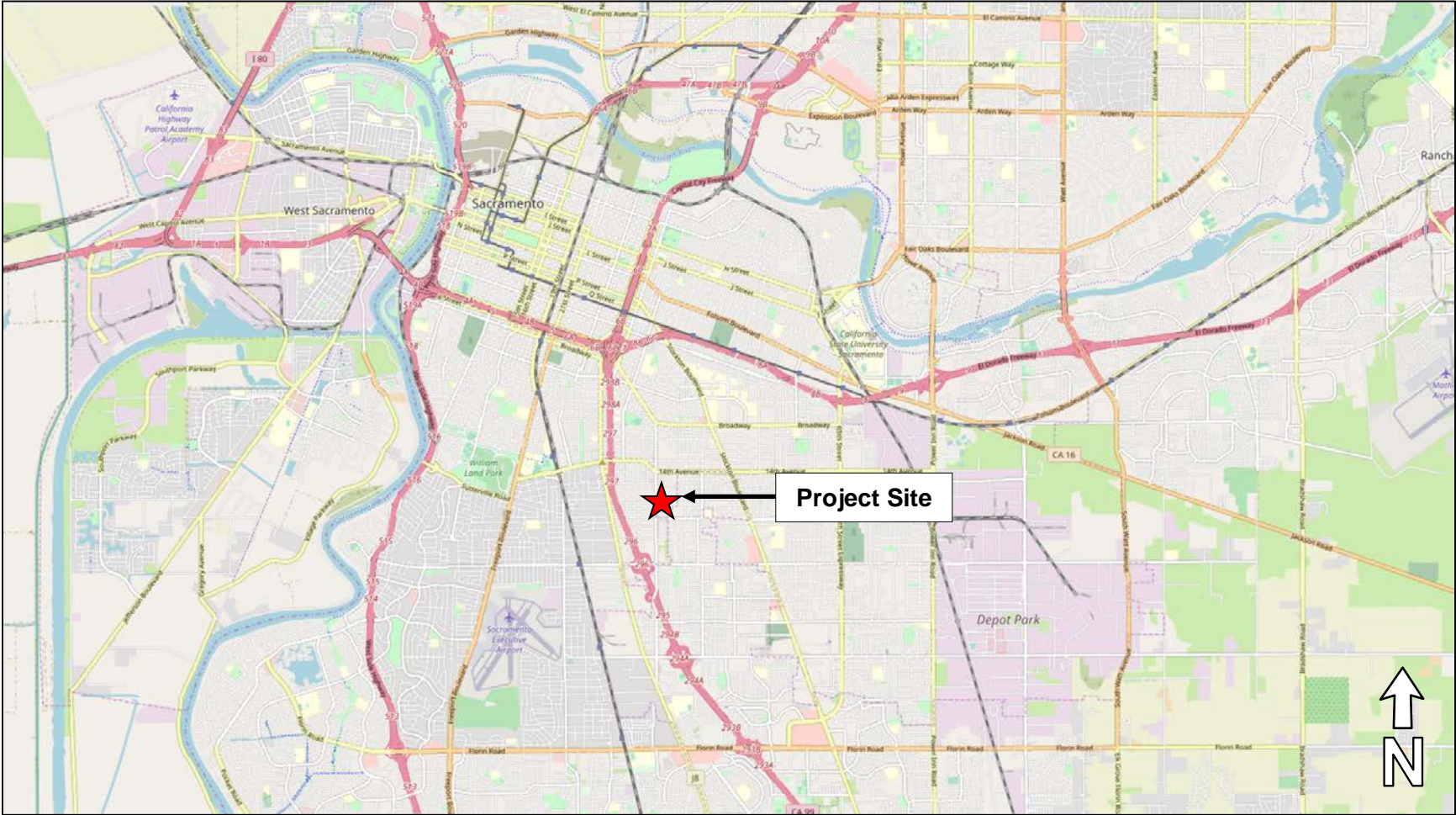
### **Project Components**

The following sections provide details related to the various components associated with the proposed project.

#### *Student Enrollment*

The Christian Brothers High School has operated as a private high school since opening in 1957. Current enrollment for the school is 1,137 students and, although future enrollment is not anticipated to exceed 1,160 students for the foreseeable future, as part of the proposed project, the school would request a minor modification to an existing Special Use Permit (SUP) to increase maximum enrollment from 1,100 to 1,200 students.

Figure 1  
Regional Vicinity Map



Source: Mapbox, OpenStreetMap, 2019.

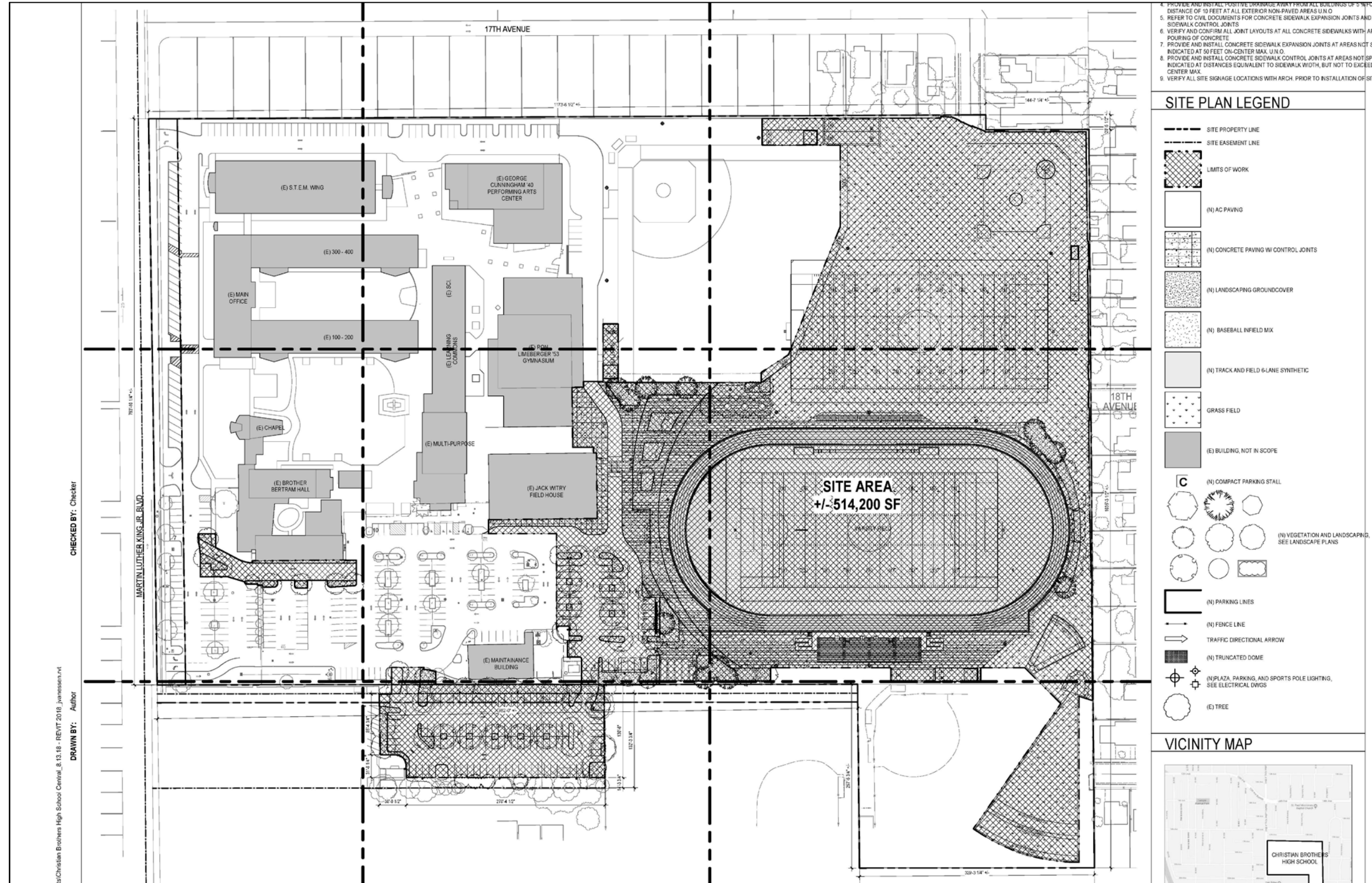


Figure 2  
Project Location





Figure 3  
Site Plan



4. PROVIDE AND INSTALL POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS OF 5' MINOR DISTANCE OF 10 FEET AT ALL EXTERIOR NON-PAVED AREAS U.N.O.
5. REFER TO CIVIL DOCUMENTS FOR CONCRETE SIDEWALK EXPANSION JOINTS AND CONTROL JOINTS
6. VERIFY AND CONFIRM ALL JOINT LAYOUTS AT ALL CONCRETE SIDEWALKS WITH ARCH. POURING OF CONCRETE
7. PROVIDE AND INSTALL CONCRETE SIDEWALK EXPANSION JOINTS AT AREAS NOT SPECIFIED AT 50 FEET ON-CENTER MAX. U.N.O.
8. PROVIDE AND INSTALL CONCRETE SIDEWALK CONTROL JOINTS AT AREAS NOT SPECIFIED AT DISTANCES EQUIVALENT TO SIDEWALK WIDTH, BUT NOT TO EXCEED 5 FEET ON-CENTER MAX.
9. VERIFY ALL SITE SIGNAGE LOCATIONS WITH ARCH. PRIOR TO INSTALLATION OF SITE

**SITE PLAN LEGEND**

- SITE PROPERTY LINE
- SITE EASEMENT LINE
- [Cross-hatch pattern] LIMITS OF WORK
- [Blank square] (N) AC PAVING
- [Grid pattern] (N) CONCRETE PAVING W/ CONTROL JOINTS
- [Dotted pattern] (N) LANDSCAPING GROUNDCOVER
- [Stippled pattern] (N) BASEBALL INFIELD MIX
- [Light gray square] (N) TRACK AND FIELD 6-LANE SYNTHETIC
- [Dark gray square] GRASS FIELD
- [Dark gray square] (E) BUILDING, NOT IN SCOPE
- [Square with 'C'] (N) COMPACT PARKING STALL
- [Various circular patterns] (N) VEGETATION AND LANDSCAPING, SEE LANDSCAPE PLANS
- [Dashed line] (N) PARKING LINES
- [Solid line] (N) FENCE LINE
- [Arrow] TRAFFIC DIRECTIONAL ARROW
- [Square with diagonal lines] (N) TRUNCATED DOME
- [Circle with crosshair] (N) PLAZA, PARKING, AND SPORTS POLE LIGHTING, SEE ELECTRICAL DWGS
- [Circle with dot] (E) TREE

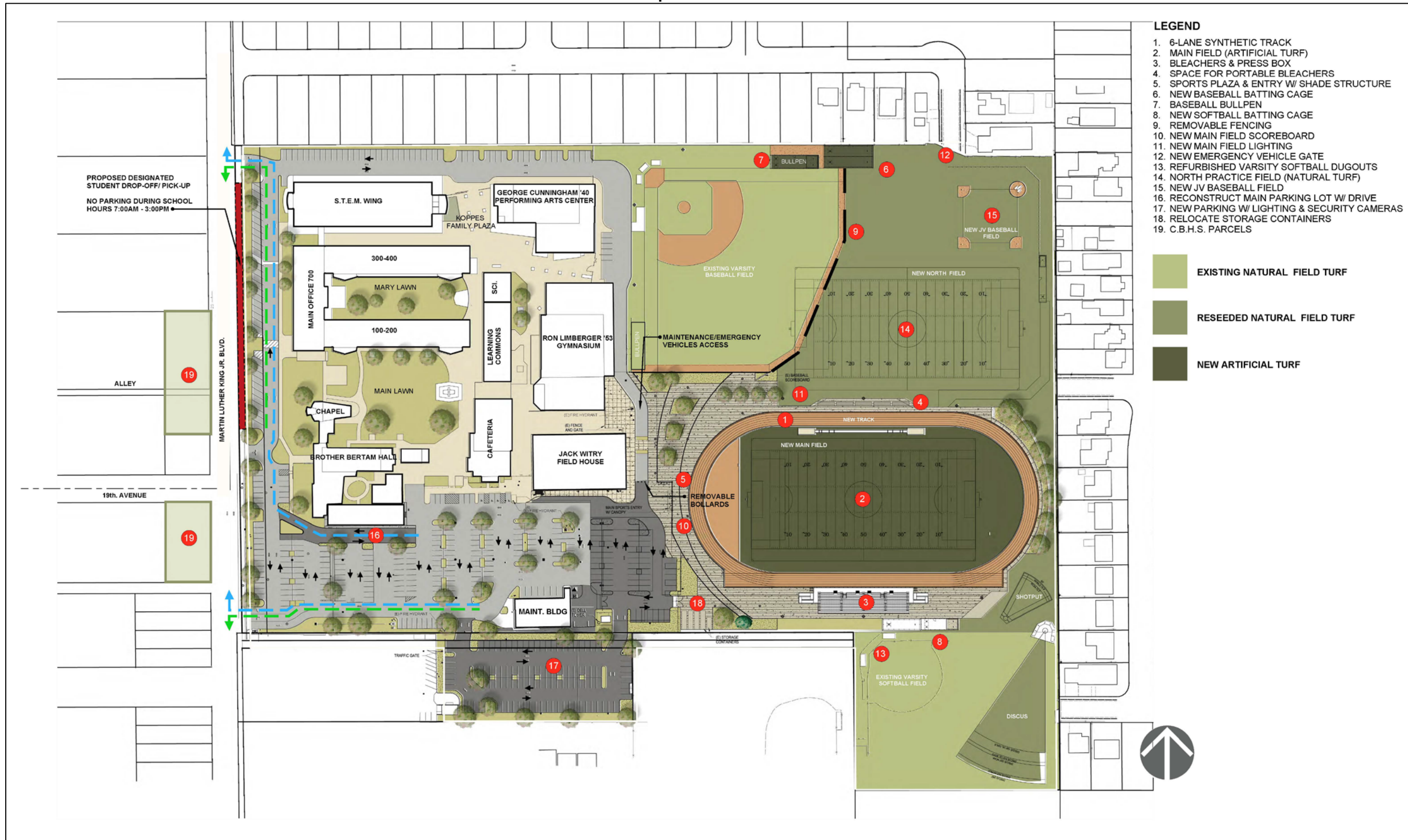


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:\0\Christian Brothers High School Central\_S.13.18 - REVIT 2018\_jmason.nvt

Figure 4  
Improvement Plans





### *Stadium Improvements*

The proposed project would include demolition and relocation of the overall stadium complex northwest of the current stadium location to accommodate a new, covered primary access point located at the eastern boundary of the stadium complex. The new main field would be constructed with an artificial turf surface, replacing the current grass surface. The new perimeter track would be six lanes wide and include a synthetic, all-weather surface. New bleachers with a seating capacity of 1,300 seats and a new press box would be constructed at the southern border of the stadium and an additional space for portable bleachers would be located at the northern portion of the stadium. A new main field scoreboard would be installed at the eastern edge of the stadium. In addition, a six-foot-tall chain-link fence would be constructed around the perimeter of the stadium complex and a three-foot-tall fence would be constructed around the perimeter of the track. Gates would be provided to allow for emergency vehicle access into the stadium.

### *Demolition*

A paved parking area containing 145 parking spaces located immediately north of the current stadium complex would be demolished as part of the proposed project in order to accommodate the proposed stadium improvements, concrete pedestrian access walkways, and landscaping. A new parking lot containing 145 parking spaces would be constructed at the southernmost portion of the project site, immediately adjacent to the main parking lot in order to offset the loss of parking spaces associated with the aforementioned demolition activities.

Portions of the existing curb and landscaping throughout the main parking lot at the southern portion of the project site would be demolished to accommodate the installation of a new drive aisle and provide access to the proposed new parking areas. Further proposed demolition activities would include the removal of the existing junior varsity baseball field, bleachers, and baseball mounds located in the eastern portion of the property as well as demolition of the left and center outfield fence and warning track for the varsity baseball field, located in the northeastern portion of the site. Figure 5 shows the demolition plan for the proposed project.

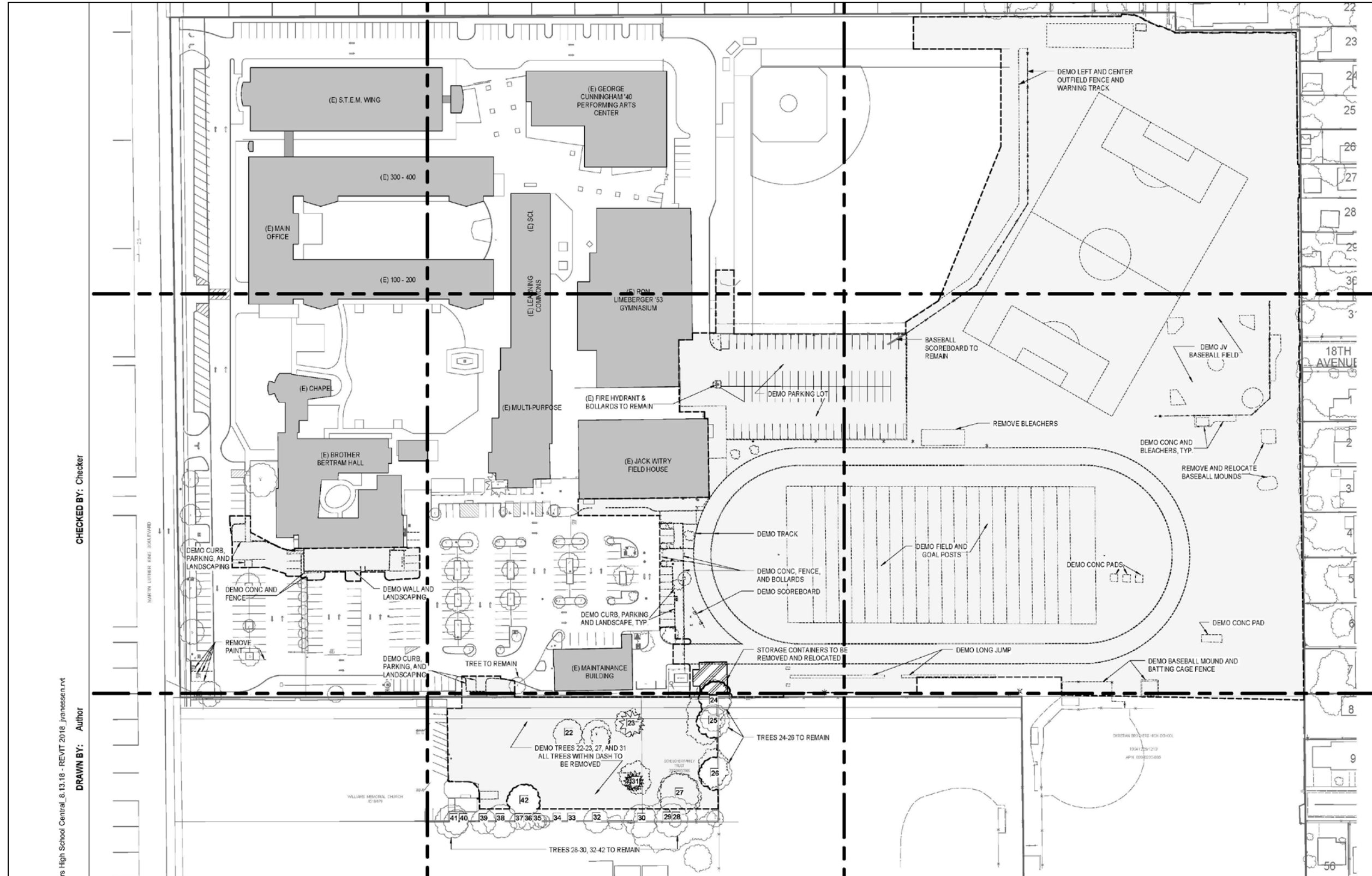
### *Tree Removal*

Construction of the new parking lot in the southern portion of the project site would require the removal of four on-site trees consisting of redwood, black acacia, black walnut, and interior live oak trees.

### *Lighting*

The proposed project would include installation of new stadium and main field lighting that would consist of six 90-foot-tall light poles, affixed with energy-efficient LED light fixtures. The proposed field lighting would make use of Musco Total Light Control LED fixtures designed to eliminate disruptive glare to nearby homes and reduce light pollution to the night sky. Each of the six proposed light poles would be outfitted with a variety of luminaire types that would allow for variable control of the amount of light produced depending on the type of sporting event. In addition to the proposed stadium lights, new parking lot lighting with security cameras would be installed throughout the existing and proposed parking lot areas.

Figure 5  
Demolition Plan



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### *Landscaping*

The proposed project would emphasize the retention of as many existing trees as possible and include the addition of 95 new trees throughout the project site to achieve a total of 32,636 sf of shading which would exceed the 50 percent parking lot shade requirement set forth in Section 17.612.040 of the Sacramento City Code. The landscaping plan for the proposed project is shown in Figure 6.

### *Other Site Improvements*

In addition to the above changes, the proposed project would include the following improvements: new practice (north) field with natural turf; new junior varsity baseball field; new baseball bullpen; new baseball batting cage; new softball batting cage; refurbished varsity softball dugout; and removable outfield fencing at the varsity baseball field. Figure 4 above illustrates the location of each of the above site improvements.

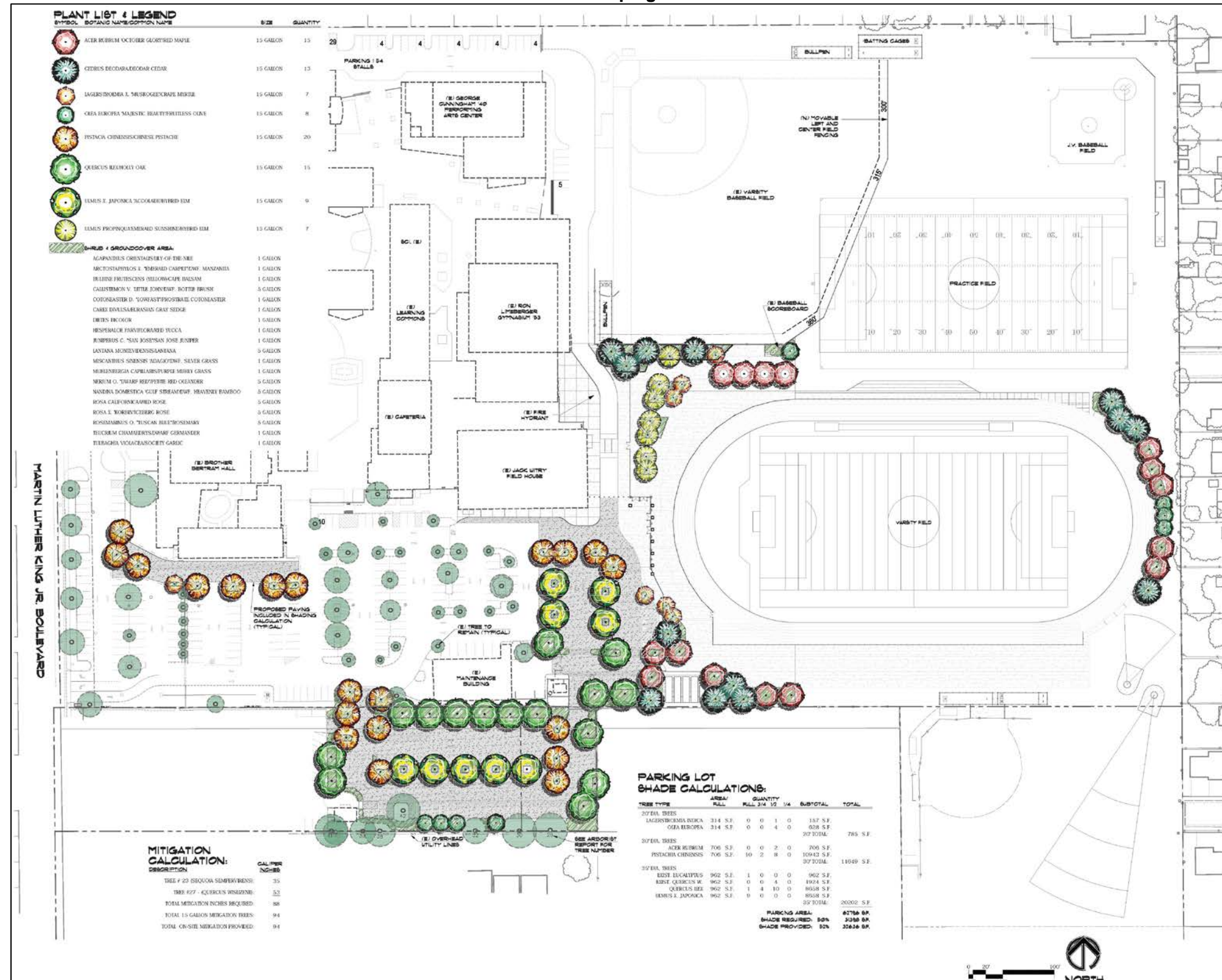
### Site Access and Circulation

Access to the project site is currently provided by three driveways on Martin Luther King Jr. Boulevard west of the project site. The southernmost driveway serves as the primary entrance to the main parking lot at the southern portion of the project site, and the center driveway serves as the primary entrance to the parking area in front of the main office building. Entry from the center driveway is restricted to visitors and staff and serves as the primary student drop-off location. The third, northernmost driveway is used primarily as an exit from the site. The existing parking lots on the project site provide a total of 401 parking spaces. As mentioned above, the proposed project would demolish an existing parking lot containing 145 parking spaces in order to accommodate renovation of the sports complex. A new parking lot would be constructed in the southern portion of the project site in order to offset the loss of parking associated with demolition of the existing parking area. The new parking lot would contain 145 parking spaces in order to maintain 401 on-site parking spaces.

Emergency access to the site is currently limited to entry from the three aforementioned driveways along Martin Luther King Jr. Boulevard. The proposed project would include construction of a new, alternative/emergency access point at the terminus of 40<sup>th</sup> Street in the northeastern portion of the project site. To limit unauthorized access at the new access point, a 15-foot-wide sliding security gate would be installed along where 40<sup>th</sup> Street abuts the project site.

The proposed project would implement changes to the parking and circulation of vehicles throughout the project site. The southern entry to the project site would remain unchanged and provide vehicle entry and exit from the site; however, the parking lot would be revised to include stacked parking, in which vehicles would be parked horizontally behind occupied parking spaces within the drive aisles. The intended purpose of the addition of stacked parking is to designate the area between the central and northern site driveways specifically for pick-up and drop-off of students. In addition, a new drive aisle at the northern portion of the existing southern parking lot would be constructed to improve vehicle circulation and direct traffic to the northern driveway for more efficient exiting.

Figure 6  
Landscaping Plan



### Drainage Infrastructure

The following discussion relates to the stormwater drainage infrastructure components of the proposed project.

#### *Stormwater Drainage*

The proposed project would result in the addition of approximately 2.1 acres of impervious surfaces to the site. Stormwater runoff from impervious areas created as part of the proposed stadium complex renovations would sheet flow to pervious grass and dirt areas to the north and south of the stadium complex. In addition, stormwater runoff resulting from the new parking area would be directed through a series of storm drains to pervious surfaces to the south of the parking lot (see Figure 7).

Additional stormwater treatment measures would include the widening of an existing six-foot-wide vegetated swale extending along the southeastern portion of the existing parking lot in order to meet the detention and water quality requirements applicable to the project. Any stormwater treatment measures would be required to comply with the latest edition of the *Stormwater Quality Design Manual for the Sacramento and South Placer Regions*.

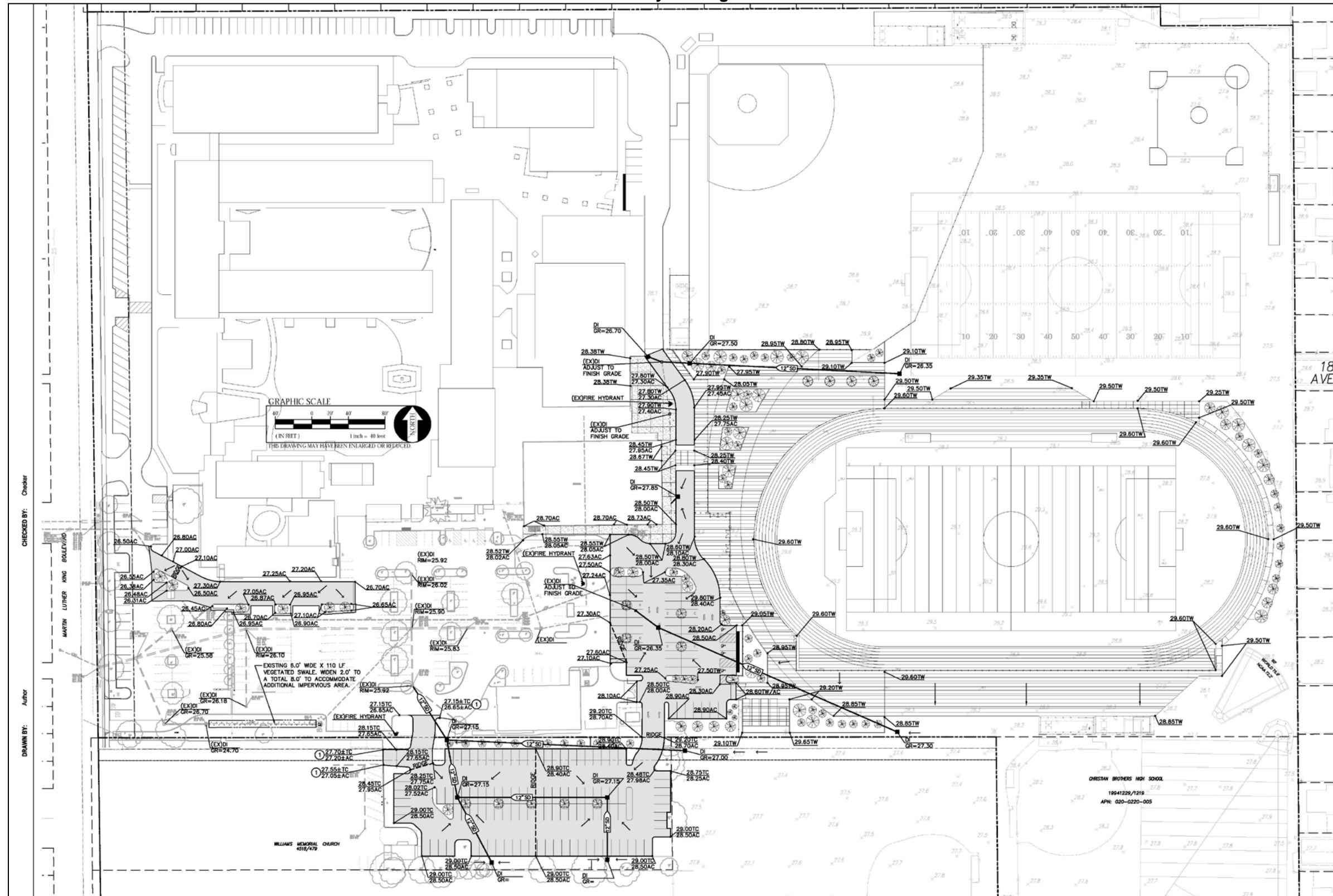
### Project Approvals

It is anticipated the proposed project would require the following approvals by the lead agency (i.e., the City of Sacramento):

- Approval of the IS/MND and Mitigation Monitoring Plan;
- Major Modification of a previous CUP to increase the maximum student enrollment from 1,100 to 1,200;
- Site Plan and Design Review of the site over an acre, with a deviation to exceed height standards; and
- Tree Permit to remove identified onsite trees.



Figure 7  
Preliminary Drainage Plan





## SECTION III – ENVIRONMENTAL CHECKLIST AND DISCUSSION

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### LAND USE, POPULATION AND HOUSING, AGRICULTURAL RESOURCES AND ENERGY

#### Introduction

CEQA requires the Lead Agency to examine the effects of a project on the physical conditions that exist within the area that would be affected by the project. CEQA also requires a discussion of any inconsistency between the proposed project and applicable general plans and regional plans.

An inconsistency between the proposed project and an adopted plan for land use development in a community would not constitute a physical change in the environment. When a project diverges from an adopted plan, however, it may affect planning in the community regarding infrastructure and services, and the new demands generated by the project may result in later physical changes in response to the project.

In the same manner, the fact that a project brings new people or demand for housing to a community does not, by itself, change the physical conditions. An increase in population may, however, generate changes in retail demand or demand for governmental services, and the demand for housing may generate new activity in residential development. Physical environmental impacts that could result from implementing the proposed project are discussed in the appropriate technical sections.

This section of the IS/MND identifies the applicable land use designations, plans and policies, and permissible densities and intensities of use, and discusses any inconsistencies between these plans and the proposed project. This section also discusses agricultural resources and energy, and the effect of the proposed project on these resources.

#### Discussion

##### Land Use

The proposed project would include the renovation of a sports stadium and fields at an existing private high school campus that would include new stadium lighting, scoreboard, bleachers with a seating capacity of approximately 1,300 seats, all-weather six-lane track, synthetic turf field, perimeter fencing, a conduit pathway for future lighting at practice fields, landscaping and irrigation, and a new parking lot. In addition, the proposed project would modify an existing SUP to increase maximum enrollment from 1,100 to 1,200 students. The proposed development would be consistent with the site's current land use and zoning designations of Public/Quasi-Public and R-1, respectively. The proposed uses are consistent with existing uses already occurring on the site.

Existing land uses surrounding the project site include single-family residential to the north and east, single-family residential and commercial to the west, and the William Memorial Church of God and Oak Ridge Elementary School to the south. Given that the site is currently developed with the Christian Brothers High School Campus and does not contain any existing residential development, implementation of the project would not physically divide an established community.

Based on the above, the proposed project would not result in impacts related to land use.

### Population and Housing

The project site is located at an existing private high school campus within a developed area of the southern portion of the City of Sacramento. Surrounding land uses include single-family residential to the north and east, single-family residential and commercial to the west, and the William Memorial Church of God and Oak Ridge Elementary School to the south. The site does not contain any existing residential development nor would the proposed project result in the addition of residential development to the site. The proposed project would include modification of an existing SUP to increase the maximum student enrollment from 1,100 to 1,200 students. The potential increase of up to 100 students would be anticipated to better serve the educational demand of existing developments in the area, and would not result in any impacts related to population and housing.

The proposed renovations to the sports stadium and practice fields associated with implementation of the proposed project would not displace any existing housing units or people and the construction or replacement of housing would not be required. In addition, the proposed project would be consistent with the site's current General Plan land use and zoning designations.

Thus, the proposed project would not result in impacts related to population and housing beyond what was previously analyzed in the Master EIR.

### Agricultural Resources

The Master EIR discussed the potential impact of development under the 2035 General Plan on agricultural resources (see Master EIR, Chapter 6.2). In addition to evaluating the effect of the General Plan on sites within the City, the Master EIR noted that to the extent the 2035 General Plan accommodates future growth within the City limits, the conversion of farmland outside the City limits is minimized. (Master EIR, page 6.2-13) The Master EIR concluded that the impact of the 2035 General Plan on agricultural resources within the City was less than significant.

The proposed project would include redevelopment of the on-site sports complex as well as the demolition of an existing on-site parking lot and the construction of a new parking area in the southern portion of the project site. Given that the project site has been used as a private high school campus since opening in 1957, the proposed project would not result in any impacts to agricultural resources such as the conversion of important farmland. In addition, the site is not designated or zoned for agricultural or timber uses, nor is the land under a Williamson Act contract.

Consistent with the conclusions of the Master EIR, the proposed project would not result in impacts to agricultural resources.

### Energy

Structures built as part of the proposed project would be subject to Titles 20 and 24 of the California Code of Regulations, which reduce demand for electrical energy by implementing energy-efficient standards for residential and non-residential buildings. The 2035 General Plan includes goals (Energy Resources Goal U 6.1.1) and related policies to encourage energy-efficient technology by offering rebates and other incentives to commercial and residential

developers, coordination with local utility providers, and recruitment of businesses that research and promote energy conservation and efficiency.

The Master EIR discussed energy conservation and relevant General Plan policies in Section 6.3 (page 6-3). The discussion concluded that with implementation of the General Plan policies and energy regulation (e.g., Title 24), development allowed in the 2035 General Plan would not result in the inefficient, wasteful, or unnecessary consumption of energy.

The Master EIR concluded that implementation of State regulations, coordination with energy providers, and implementation of 2035 General Plan policies would reduce the potential impacts from construction of new energy production or transmission facilities to a less-than-significant level. The proposed project would be required to comply with all applicable regulations related to energy efficiency, including Titles 20 and 24 of the California Code of Regulations, and the applicable policies of the 2035 General Plan. The proposed project would include the installation of energy efficient LED lighting for the main stadium and practice fields which would replace the halogen rental lights currently employed by the school for night time sports events and practices. The use of LED lighting would result in an overall decrease in demand for electrical energy relative to the current halogen lights. Consistent with the Master EIR, the proposed project would not result in impacts related to energy.

| Issues:   | Effect will be studied in the EIR | Effect can be mitigated to less than significant | No additional significant environmental effect |
|---|-----------------------------------|--|--|
| 1. <u>AESTHETICS</u><br>Would the proposal:   |                                   |  | X  |
| A) Create a source of glare that would cause a public hazard or annoyance?                    |                                   |  | X  |
| B) Create a new source of light that would be cast onto oncoming traffic or residential uses? |                                   |  | X  |
| C) Substantially degrade the existing visual character of the site or its surroundings?       |                                   |  | X  |

### **Environmental Setting**

The project site is currently developed with buildings, parking lots, playing fields and other amenities associated with the Christian Brothers High School. The western portion of the site contains 18 school buildings and main paved parking lot and the eastern portion contains the current sports complex which consists of the stadium and main field, practice fields, and varsity and junior varsity baseball and softball fields.

Land uses surrounding the project site include single-family residential development to the north and east, single-family residential and commercial development to the west across Martin Luther King Jr. Boulevard, and the William Memorial Church of God and Oak Ridge Elementary School to the south. Public views of the project site include views from motorists, bicyclists, and pedestrians travelling on Martin Luther King Jr. Boulevard to the west of the project site. Additional views of the project site exist from the surrounding residential and commercial development. Views would be affected by the masonry wall that surrounds the playing fields.

Existing sources of light and glare include, but are not limited to, exterior lighting associated with the existing on-site school buildings and parking lot lighting, headlights from vehicles travelling within the existing on-site parking areas, and streetlights along Martin Luther King Jr. Boulevard. In addition, rental lighting is currently used to illuminate the stadium and sports fields during night time games and practice activities. The project site does not contain scenic resources, is not located in an area designated as a scenic resource or vista and is not visible from any State Scenic Highways.<sup>1</sup>

### **Standards of Significance**

The significance criteria used to evaluate the project impacts to aesthetics are based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines, thresholds of significance adopted by the City in applicable general plans and previous environmental documents, and professional judgment. A significant impact related to aesthetics would occur if the proposed project would:

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<sup>1</sup> California Department of Transportation. *California Scenic Highway Mapping System, Sacramento County*. Available at: [http://www.dot.ca.gov/hq/LandArch/16\\_livability/scenic\\_highways/](http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/). Accessed January 2019.

- Create a new source of substantial light or glare that is substantially greater than typical urban sources and could cause sustained annoyance or hazard for nearby sensitive receptors; or
- Substantially interfere with an important scenic resource or substantially degrade the view of an existing scenic resource.

### **Summary of Analysis under the 2035 General Plan Master EIR and Applicable General Plan Policies**

The Master EIR described the existing visual conditions in the City of Sacramento, and the potential changes to those conditions that could result from development consistent with the 2035 General Plan. See Master EIR, Chapter 4.13, Visual Resources.

The Master EIR identified potential impacts for light and glare (Impact 4.13-1) and concluded that impacts would be less than significant.

### **Answers to Checklist Questions**

#### Questions A and B

The City of Sacramento, including the general vicinity of the project, is mostly built out, and a large amount of widespread, ambient light from urban uses already exists. New development permitted under the 2035 General Plan would add sources of light that are similar to the existing urban light sources from any of the following: exterior building lighting, new street lighting, parking lot lights, and headlights of vehicular traffic. Various schools and recreation facilities include field lighting for evening activities. The proposed new sources of light at the project site would be similar to the current urban setting in amount and intensity of light.

New development allowed under the 2035 General Plan would be subject to General Plan policies, building codes, and Site Plan and Design Review process to ensure compliance with General Plan policies. With an emphasis on infill development in the General Plan, additional light sources would be primarily concentrated within existing, well-lit areas of the City and would be similar to the existing character of urban lighting. Given that the proposed project would be consistent with the project site's existing land use designation, a significant increase in ambient light level in the City would not occur.

The Visual Resources section of the Master EIR addresses lighting and glare standards for development projects.

- Policy ER 7.1.3: Lighting: requires the City to minimize obtrusive light by limiting outdoor lighting that is misdirected, excessive, or unnecessary, and requiring light for development to be directed downward to minimize spill-over onto adjacent properties and reduce vertical glare.
- Policy ER 7.1.4: Reflective Glass: prohibits new development from resulting in any of the following: (1) using reflective glass that exceeds 50 percent of any building surface and on the bottom three floors; (2) using mirrored glass; (3) using black glass that exceeds 25 percent of any surface of a building; (4) using metal building materials that exceed 50 percent of any street-facing surface of a primarily residential building; and (5) using exposed concrete that exceeds 50 percent of any building.

The proposed project would comply with these General Plan policies, which would be ensured through the Site Plan and Design Review process.

The project site has been previously developed with the Christian Brothers High School campus. The site contains existing buildings and parking areas as well as the sports complex and practice fields, with campus lighting for security and landscape purposes. The school anticipates operation of the field lighting would be limited to 6:00 PM for practice activities and 7:00 PM during games. In addition, the school requests to periodically operate the lighting until 10:00 PM

The proposed project would install and operate stadium and practice-field lighting as shown in Figure 4 above.

The new lighting associated with the proposed renovation of the sports complex would consist of energy efficient LED fixtures to provide lighting for the stadium and main field (see Figure 8). The stadium lighting would consist of six 90-foot-tall light poles. The height of the light poles would allow for flexibility in shielding light from adjacent sensitive receptors such as the single-family residential development to the east of the project site. As shown in Figures 9 through 11, photometrics submitted for the project site demonstrate that the illumination from the proposed stadium lighting would be limited to the stadium area.

As illustrated in Figure 9, Figure 10, and Figure 11, the lighting associated with the proposed sports complex renovation would be directed downward to minimize spill-over onto adjacent properties in addition to reducing vertical glare.

The light fixtures proposed for the site would, based on the photometric data presented with the project, avoid casting light directly onto adjacent properties. The light fixtures themselves would be visible during daylight hours, as well as during evening hours when in operation. Some project-specific increase in ambient light levels would result, and views of the playing fields during operation would change from a darkened to lighted landscape. The changes in such lighting would not be substantial given the existing urban environment, current levels of ambient lighting and the existing uses of the areas that would be subject to the new lighting.

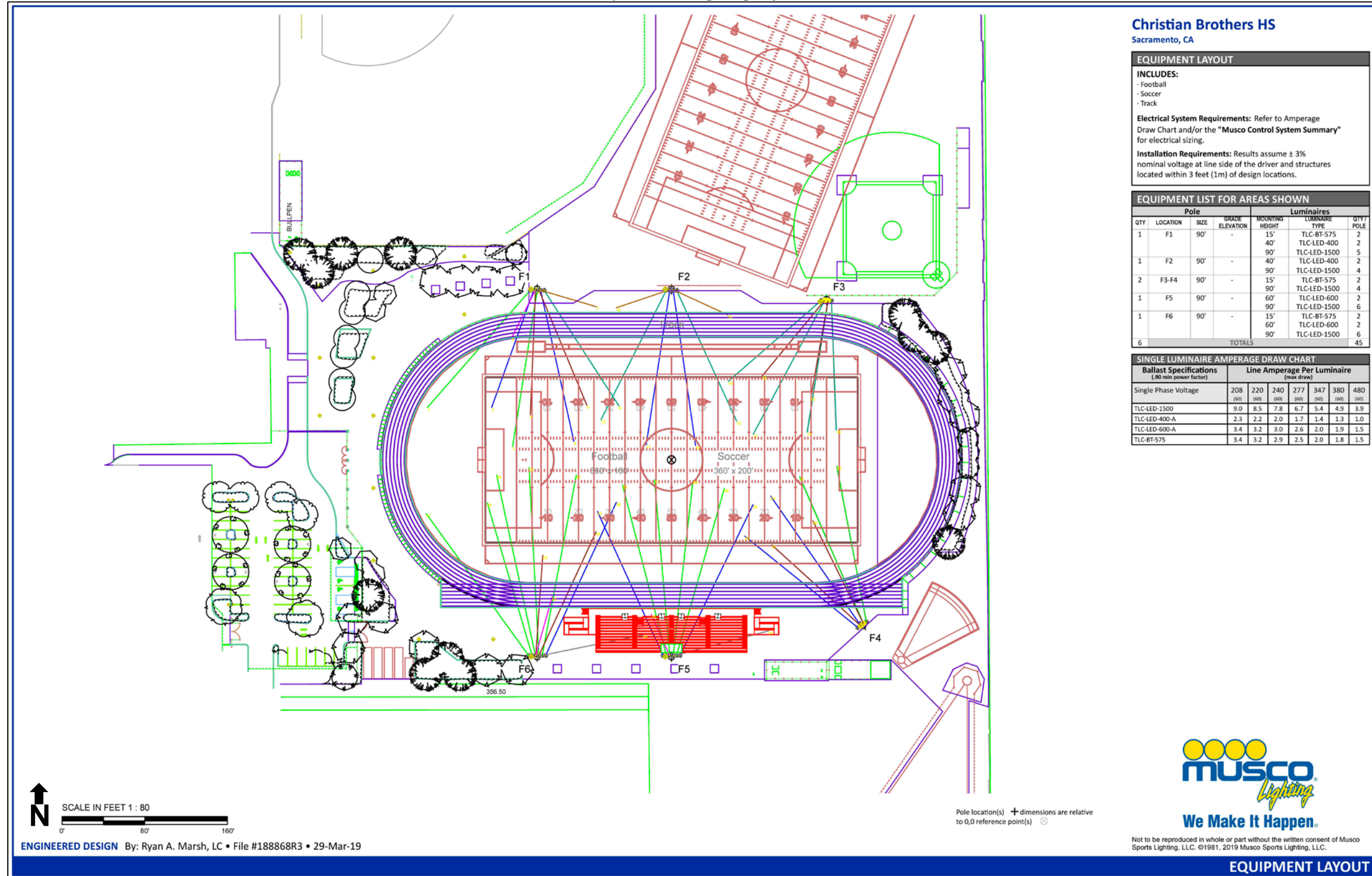
The proposed project would result in a *less-than-significant* impact regarding sources of light and glare.

#### Question C

New development associated with the 2035 General Plan could result in changes to important scenic resources as seen from visually sensitive locations. As described above under “Thresholds of Significance” important existing scenic resources include major natural open space features such as the American River and Sacramento River, including associated parkways. Another important scenic resource is the State Capitol (as defined by the Capitol View Protection Ordinance). Other potential important scenic resources include important historic structures listed on the Sacramento Register of Historic and Cultural Resources, California and/or National Registers.



Figure 8  
 Proposed Site Lighting Layout



**Christian Brothers HS**  
 Sacramento, CA

**EQUIPMENT LAYOUT**

**INCLUDES:**  
 - Football  
 - Soccer  
 - Track

**Electrical System Requirements:** Refer to Amperage Draw Chart and/or the "Musco Control System Summary" for electrical sizing.

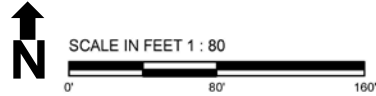
**Installation Requirements:** Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

**EQUIPMENT LIST FOR AREAS SHOWN**

| QTY | LOCATION | Pole |                 | Luminaires |              |      | QTY |  |
|-----|----------|------|-----------------|------------|--------------|------|-----|--|
|     |          | SIZE | GRADE ELEVATION | HEIGHT     | TYPE         | POLE |     |  |
| 1   | F1       | 90'  | -               | 15'        | TLC-BT-575   | 2    | 2   |  |
|     |          |      |                 | 40'        | TLC-LED-400  | 2    |     |  |
|     |          |      |                 | 90'        | TLC-LED-1500 | 5    |     |  |
| 1   | F2       | 90'  | -               | 40'        | TLC-LED-400  | 2    |     |  |
|     |          |      |                 | 90'        | TLC-LED-1500 | 4    |     |  |
| 2   | F3-F4    | 90'  | -               | 15'        | TLC-BT-575   | 2    | 4   |  |
|     |          |      |                 | 90'        | TLC-LED-1500 | 4    |     |  |
| 1   | F5       | 90'  | -               | 60'        | TLC-LED-600  | 2    | 6   |  |
|     |          |      |                 | 90'        | TLC-LED-1500 | 2    |     |  |
| 1   | F6       | 90'  | -               | 15'        | TLC-BT-575   | 2    | 2   |  |
|     |          |      |                 | 60'        | TLC-LED-600  | 2    |     |  |
|     |          |      |                 | 90'        | TLC-LED-1500 | 6    |     |  |
| 6   | TOTALS   |      |                 |            |              |      | 45  |  |

**SINGLE LUMINAIRE AMPERAGE DRAW CHART**

| Ballast Specifications<br>(.90 min power factor) | Line Amperage Per Luminaire<br>(max draw) |             |             |             |             |             |
|--|---|-------------|-------------|-------------|-------------|-------------|
|  | 208<br>(50)                               | 220<br>(60) | 240<br>(60) | 277<br>(60) | 347<br>(50) | 480<br>(50) |
| TLC-LED-1500                                     | 9.0                                       | 8.5         | 7.8         | 6.7         | 5.4         | 4.9         |
| TLC-LED-400-A                                    | 2.3                                       | 2.2         | 2.0         | 1.7         | 1.4         | 1.3         |
| TLC-LED-600-A                                    | 3.4                                       | 3.2         | 3.0         | 2.6         | 2.0         | 1.9         |
| TLC-BT-575                                       | 3.4                                       | 3.2         | 2.9         | 2.5         | 2.0         | 1.8         |



ENGINEERED DESIGN By: Ryan A. Marsh, LC • File #188868R3 • 29-Mar-19

Pole location(s) + dimensions are relative to 0,0 reference point(s)



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**EQUIPMENT LAYOUT**

Figure 9  
Football Field Photometrics

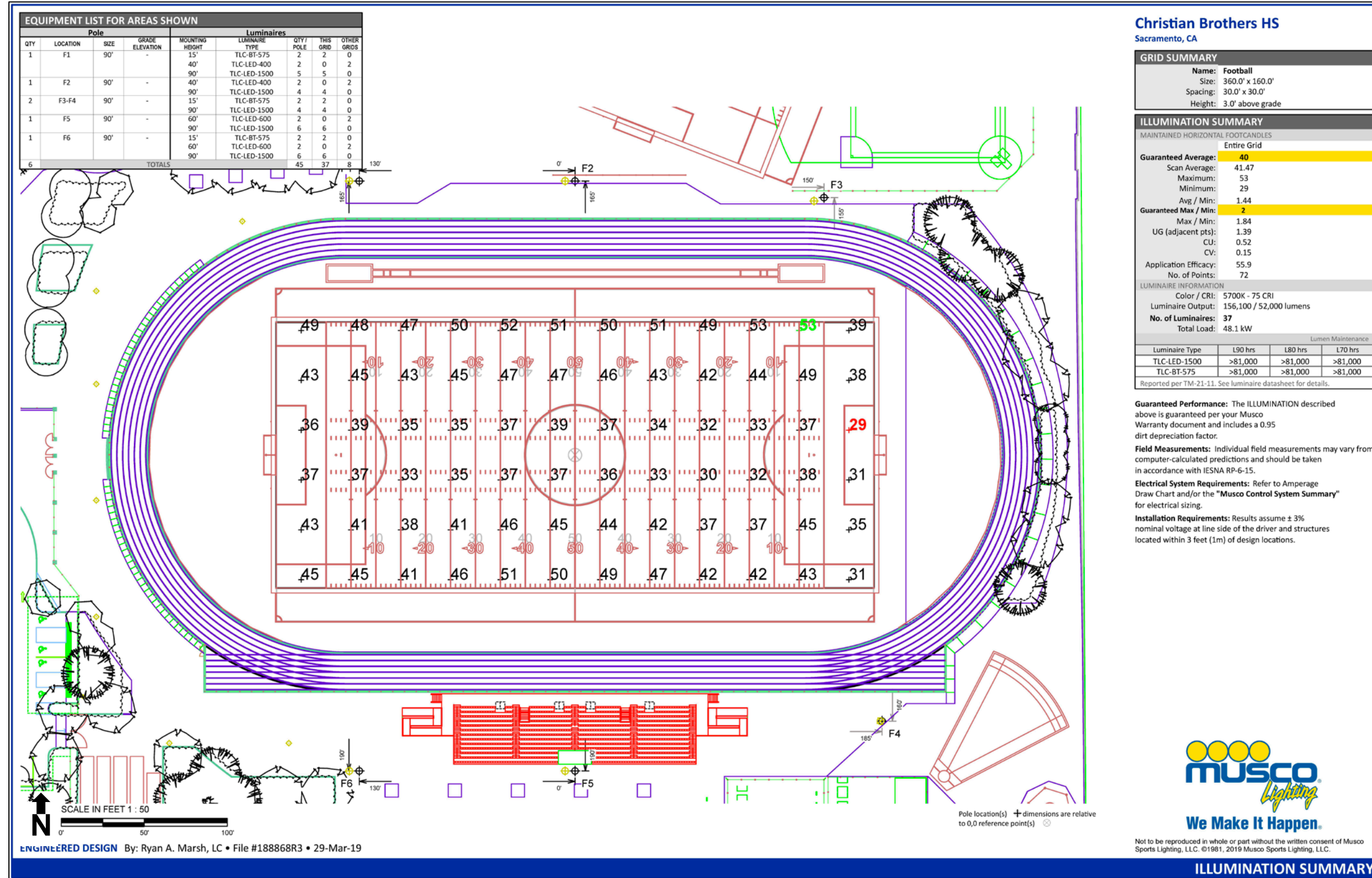




Figure 10  
Soccer Field Photometrics

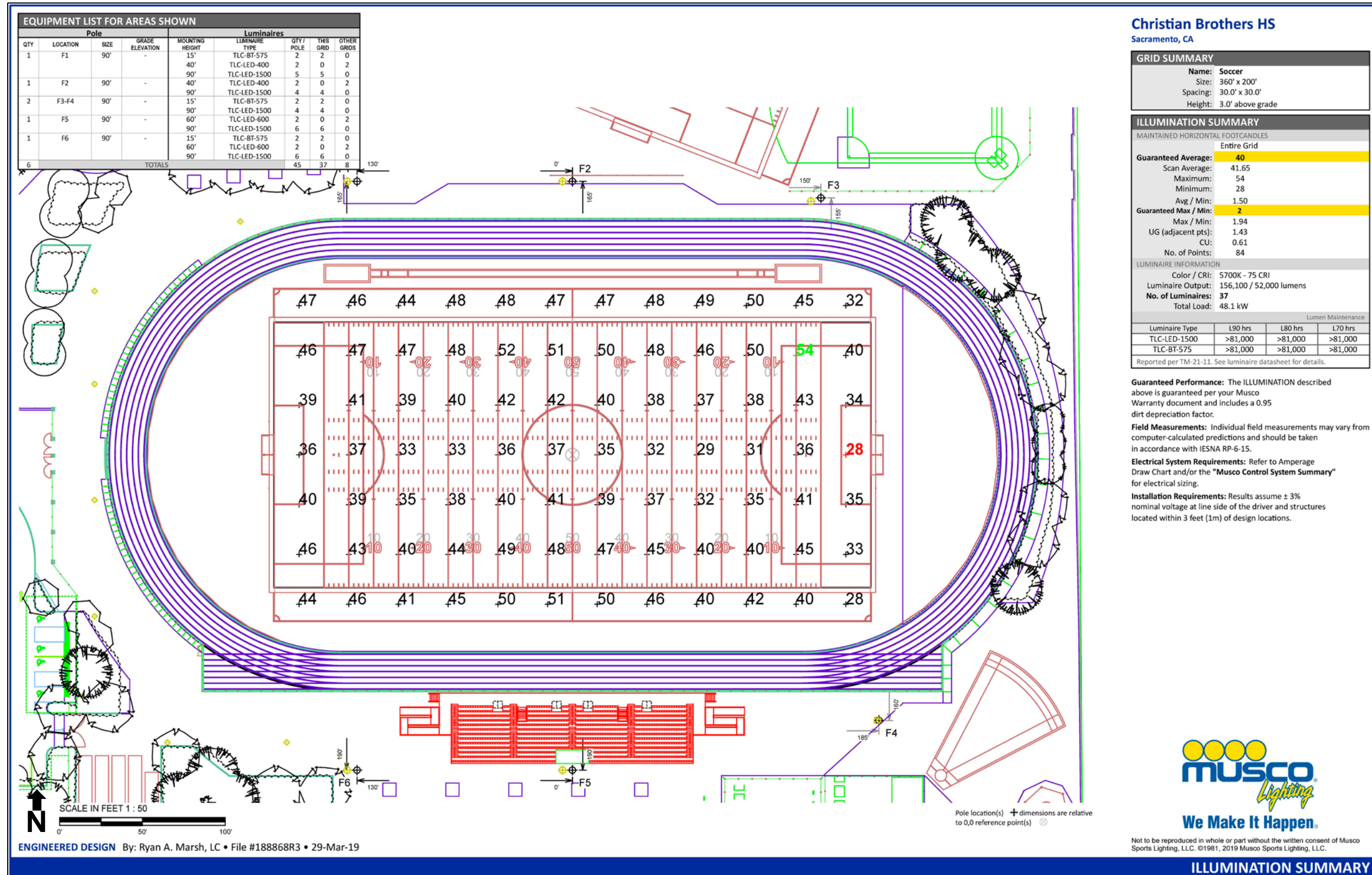
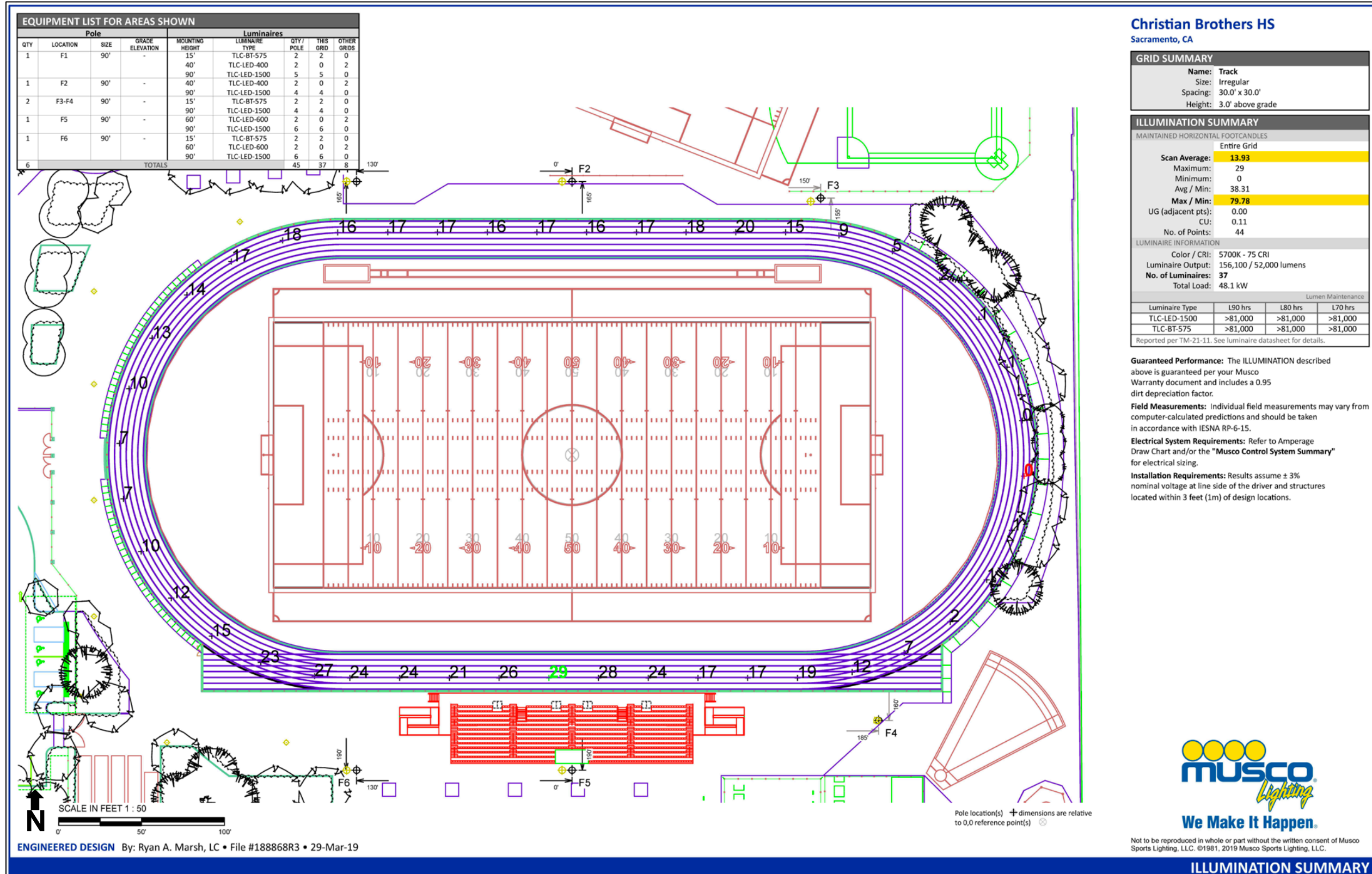


Figure 11  
Track Photometrics



Visually-sensitive public locations include viewpoints where a change to the visibility of an important scenic resource, or a visual change to the resource itself, would affect the general public. Visually-sensitive public locations include public plazas, trails, parks, parkways, or designated, publicly available and important scenic corridors (e.g., Capitol View Protection Corridor).

Policy ER 7.1.1 would guide the City to avoid or reduce substantial adverse effects of new development on views from public places to the Sacramento and American Rivers and adjacent greenways, landmarks, and the State Capitol along Capitol Mall. In addition, Policy ER 7.1.2 provides that the City shall require new development to be located and designed to visually complement the natural environment/setting when near the Sacramento and American Rivers, and along streams. With adherence to these policies, buildout of the 2035 General Plan would not substantially alter views of important scenic resources from visually sensitive areas. According to the Master EIR, with buildout of the 2035 General Plan, impacts related to interference with important existing scenic resources or degrading views of important existing scenic resources, as seen from a visually sensitive, public location would be less than significant.

The project site is not located near significant visual resources such as the Sacramento and American Rivers, the State Capitol, or public trails. The nearest public park is Temple Avenue Park, located approximately 0.4-mile northwest of the project site. Currently, the existing residential and commercial development immediately west of the project site obstructs any view of the site from Temple Avenue Park, thus, existing views from the park would not be altered by the project.

The site is currently developed with buildings, parking lots, and a sports complex associated with the Christian Brothers High School. As such, the site does not contain any scenic resources that would be degraded by the proposed project. The type and intensity of development which is proposed would be visually compatible with the existing commercial and office development in the project area. Furthermore, the proposed project would be consistent with the site's existing land use and zoning designations.

As part of the proposed project, City staff would conduct a Site Plan and Design Review. As noted in Chapter 17.808 of the Sacramento City Code, the purpose of Site Plan and Design Review is to ensure that the physical aspects of development projects are consistent with the general plan and any other applicable specific plans or design guidelines, that projects are high quality and compatible with surrounding development, among other considerations. Consequently, the site plan and design review for the proposed project would be intended to ensure that the proposed site improvements would not result in a substantial degradation in the existing visual character of the project site.

Based on the above, potential impacts to the visual character of the site and the site's surroundings associated with the proposed site improvements has been previously analyzed in the Master EIR, and the proposed project would result in a **less-than-significant** impact.

### **Mitigation Measures**

None required.

## Findings

The proposed project would have no additional project-specific environmental effects relating to Aesthetics. Therefore, implementation of the proposed project would have no additional significant environmental effects beyond what was previously analyzed in the Master EIR.



| Issues:  | Effect will be studied in the EIR | Effect can be mitigated to less than significant | No additional significant environmental effect |
|--|-----------------------------------|--|--|
| <b>2. AIR QUALITY</b><br><i>Would the proposal:</i>  |                                   |  | X  |
| A) Result in construction emissions of NO <sub>x</sub> above 85 pounds per day?  |                                   |  | X  |
| B) Result in operational emissions of NO <sub>x</sub> or ROG above 65 pounds per day?  |                                   |  | X  |
| C) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?   |                                   |  | X  |
| D) Result in any increase in PM <sub>10</sub> concentrations, unless all feasible Best Available Control Technology (BACT) and Best Management Practices (BMPs) have been applied, then increases above 80 pounds per day or 14.6 tons per year? |                                   |  | X  |
| E) Result in CO concentrations that exceed the 1-hour state ambient air quality standard (i.e., 20.0 ppm) or the 8-hour state ambient standard (i.e., 9.0 ppm)?  |                                   |  | X  |
| F) Result in exposure of sensitive receptors to substantial pollutant concentrations?  |                                   |  | X  |
| G) Result in TAC exposures create a risk of 10 in 1 million for stationary sources, or substantially increase the risk of exposure to TACs from mobile sources?  |                                   |  | X  |
| H) Conflict with the Climate Action Plan?  |                                   |  | X  |

### **Environmental Setting**

The environmental setting for the proposed project, including the existing climate and meteorological conditions, existing air quality conditions, and greenhouse gas (GHG) emissions, is discussed below.

#### Climate and Meteorology

The City of Sacramento is located within the Sacramento Valley Air Basin (SVAB), which is a valley bounded by the North Coast Mountain Ranges to the west and the Northern Sierra Nevada Mountains to the east. Hot, dry summers and mild, rainy winters characterize the Mediterranean climate of the Sacramento Valley. Throughout the year, daily temperatures may range by 20 degrees Fahrenheit with summer highs often exceeding 100 degrees and winter lows occasionally below freezing. Average annual rainfall is approximately 20 inches and snowfall is very rare. Summertime temperatures are normally moderated by the presence of the “Delta breeze” that arrives through the Carquinez Strait in the evening hours.

The mountains surrounding the SVAB create a barrier to airflow, which can trap air pollutants in the valley. The highest frequency of air stagnation occurs in the autumn and early winter when large high-pressure cells lie over the valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduces the influx of outside air and allows air pollutants to become concentrated in a stable volume of air. The surface concentrations of pollutants are highest when these conditions are combined with temperature inversions that trap cooler air and pollutants near the ground.

The warmer months in the SVAB (May through October) are characterized by stagnant morning air or light winds, and the Delta breeze that arrives in the evening out of the southwest. Usually, the evening breeze transports a portion of airborne pollutants to the north and out of the Sacramento Valley. During about half of the day from July to September, however, a phenomenon called the “Schultz Eddy” prevents this from occurring. Instead of allowing the prevailing wind patterns to move north carrying the pollutants out of the valley, the Schultz Eddy causes the wind pattern to circle back south. This phenomenon exacerbates the pollution levels in the area and increases the likelihood of violating Federal or State standards. The Schultz Eddy normally dissipates around noon when the Delta breeze begins.

### Air Quality Conditions

The SVAB is under the jurisdiction of the Sacramento Metropolitan Air Quality Management District (SMAQMD). Federal and State air quality standards have been established for six common air pollutants, known as criteria pollutants, because the criteria air pollutants could be detrimental to human health and the environment. The criteria pollutants include particulate matter, ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. At the federal level, Sacramento County is designated as severe nonattainment for the 8-hour ozone standard, nonattainment for the 24-hour PM<sub>2.5</sub> standard, and attainment or unclassified for all other criteria pollutants. At the State level, the area is designated as a serious nonattainment area for the 1-hour ozone standard, nonattainment for the 8-hour ozone standard, nonattainment for the particulate matter 10 microns in diameter (PM<sub>10</sub>) and particulate matter 2.5 microns in diameter (PM<sub>2.5</sub>) standards, and attainment or unclassified for all other State standards.

Nearly all development projects in the Sacramento region have the potential to generate air pollutants that may increase the difficulty of attaining federal and State AAQS. Therefore, for most projects, evaluation of air quality impacts is required to comply with CEQA. In order to help public agencies evaluate air quality impacts, the SMAQMD has developed the *Guide to Air Quality Assessment in Sacramento County*.<sup>2</sup> The SMAQMD’s guide includes recommended thresholds of significance, including mass emission thresholds for construction-related and operational ozone precursors, as the area is under nonattainment for the federal and State ozone AAQS. The SMAQMD’s guide also includes screening criteria for localized carbon monoxide (CO) emissions and thresholds for new stationary sources of toxic air contaminants (TACs).

In addition to criteria air pollutants, TACs are also a category of environmental concern. TACs are present in many types of emissions with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks

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<sup>2</sup> Sacramento Metropolitan Air Quality Management District. *Guide to Air Quality Assessment in Sacramento County*. May 2018. Available at: <http://www.airquality.org/Residents/CEQA-Land-Use-Planning/CEQA-Guidance-Tools>. Accessed February 2019.



release at least 40 different TACs. In terms of health risks, the most volatile contaminants are diesel particulate matter (DPM), benzene, formaldehyde, 1,3-butadiene and acetaldehyde. Gasoline vapors contain several TACs, including benzene, toluene, and xylenes. Public exposure to TACs can result from emissions from normal operations as well as accidental releases. Health risks from TACs are a function of both the concentration of emissions and the duration of exposure, which typically are associated with long-term exposure and the associated risk of contracting cancer. Health effects of exposure to TACs other than cancer include birth defects, neurological damage, and death.

Naturally occurring asbestos (NOA) was identified as a TAC in 1986 by California Air Resources Board (CARB). Earth disturbance activity could result in the release of NOA to the air. NOA is located in many parts of California and is commonly associated with ultramafic rocks. According to mapping prepared by the California Geological Survey, the only area within Sacramento County that is likely to contain NOA is eastern Sacramento County. The project site is not located in an area identified as likely to contain NOA.

Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Heightened sensitivity may be caused by health problems, proximity to the emissions source, and/or duration of exposure to air pollutants. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered to be sensitive receptors include residences, schools, childcare centers, playgrounds, retirement homes, convalescent homes, hospitals, and medical clinics. The nearest existing sensitive receptors to the project site would be the single-family residences to the north, west, and east of the site as well as the elementary school to the south.

### Greenhouse Gas (GHG) Emissions

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact.

A number of regulations currently exist related to GHG emissions, predominantly Assembly Bill (AB 32), Executive Order S-3-05, and Senate Bill (32). AB 32 sets forth a statewide GHG emissions reduction target of 1990 levels by 2020. Executive Order S-3-05 sets forth a transitional reduction target of 2000 levels by 2010, the same target as AB 32 of 1990 levels by 2020, and further builds upon the AB 32 target by requiring a reduction to 80 percent below 1990 levels by 2050. SB 32 also builds upon AB 32 and sets forth a transitional reduction target of 40 percent below 1990 levels by 2030. In order to implement the statewide GHG emissions reduction targets, local jurisdictions are encouraged to prepare and adopt area-specific GHG reduction plans and/or thresholds of significance for GHG emissions.

The City adopted the City of Sacramento Climate Action Plan (CAP) on February 14, 2012 to comply with AB 32. The CAP identified how the City and the broader community could reduce Sacramento's GHG emissions and included reduction targets, strategies, and specific actions. In 2015, the City of Sacramento adopted the 2035 General Plan Update. The update incorporated measures and actions from the CAP into Appendix B, General Plan CAP Policies and Programs, of the General

Plan Update. Appendix B includes all citywide policies and programs that are supportive of reducing GHG emissions.

### **Standards of Significance**

For purposes of this Initial Study, air quality impacts may be considered significant if construction and/or implementation of the proposed project would result in the following impacts that remain significant after implementation of 2035 General Plan policies:

- Construction emissions of NO<sub>x</sub> above 85 pounds per day;
- Operational emissions of NO<sub>x</sub> or ROG above 65 pounds per day;
- Violation of any air quality standard or contribute substantially to an existing or projected air quality violation;
- Any increase in PM<sub>10</sub> concentrations, unless all feasible Best Available Control Technology (BACT) and Best Management Practices (BMPs) have been applied, then increases above 80 pounds per day or 14.6 tons per year;
- CO concentrations that exceed the 1-hour State ambient air quality standard (i.e., 20.0 ppm) or the 8-hour State ambient standard (i.e., 9.0 ppm); or
- Exposure of sensitive receptors to substantial pollutant concentrations.

Ambient air quality standards have not been established for TACs. TAC exposure is deemed to be significant if:

- TAC exposures create a risk of 10 in 1 million for stationary sources, or substantially increase the risk of exposure to TACs from mobile sources.

A project is considered to have a significant effect relating to greenhouse gas emissions if the project fails to satisfy the requirements of the City's CAP.

### **Summary of Analysis under the 2035 General Plan Master EIR and Applicable General Plan Policies**

The Master EIR addressed the potential effects of the 2035 General Plan on ambient air quality and the potential for exposure of people, especially sensitive receptors such as children or the elderly, to unhealthy pollutant concentrations. See Master EIR, Chapter 4.2.

Policies in the 2035 General Plan Environmental Resources Element were identified as mitigating potential effects of development that could occur under the 2035 General Plan. Accordingly, Policy ER 6.1.1 calls for the City to work with CARB and the SMAQMD to meet State and federal air quality standards; Policy ER 6.1.2 requires the City to review proposed development projects to ensure that the projects incorporate feasible measures that reduce construction and operational emissions; Policy ER 6.1.4 and ER 6.1.11 calls for coordination of City efforts with SMAQMD; and Policy ER 6.1.15 requires the City to give preference to contractors using reduced-emission equipment.

The Master EIR identified exposure to sources of toxic air contaminants (TAC) as a potential effect. Policies in the 2035 General Plan would reduce the effect to a less-than-significant level. The policies include ER 6.1.4, requiring coordination with SMAQMD in evaluating exposure of sensitive receptors to TACs, and impose appropriate conditions on projects to protect public health and safety, as well as Policy LU 2.7.5 requiring extensive landscaping and trees along

freeways and design elements that provide proper filtering, ventilation, and exhaust of vehicle air emissions from buildings.

The Master EIR found that GHG emissions that would be generated by development consistent with the 2035 General Plan would contribute to climate change on a cumulative basis. Policies of the General Plan identified in the Master EIR that would reduce construction related GHG emissions include: ER 6.1.2, ER 6.1.11, and ER 6.1.15. The 2035 General Plan incorporates the GHG reduction strategy of the 2012 CAP, which demonstrates compliance mechanisms for achieving the City’s adopted GHG reduction target of 15 percent below 2005 emissions by 2020. Policy ER 6.1.9 commits the City to assess and monitor performance of GHG emission reduction efforts beyond 2020, and progress toward meeting long-term GHG emissions reduction goals. Policy ER 6.1.8 also commits the City to evaluate the feasibility and effectiveness of new GHG emissions reduction measures in view of the City’s longer-term GHG emissions reductions goal. The discussion of greenhouse gas emissions and climate change in the 2035 General Plan Master EIR are incorporated by reference in this Initial Study (CEQA Guidelines Section 15150).

The Master EIR identified numerous policies included in the 2035 General Plan that addressed greenhouse gas emissions and climate change. See Draft Master EIR, Chapter 4.14, and pages 4.14-1 et seq. The Master EIR is available for review at the offices of the Community Development Department, 300 Richards Boulevard, 3<sup>rd</sup> Floor, Sacramento, CA during normal business hours, and is also available online at: <http://portal.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports>.

**Answers to Checklist Questions**

Question A

In order to evaluate ozone and other criteria air pollutant emissions and support attainment goals for those pollutants that are designated as nonattainment, the SMAQMD has established recommended thresholds of significance, including mass emission thresholds for construction-related and operational ozone precursors (i.e., reactive organic compounds [ROG] and oxides of nitrogen [NO<sub>x</sub>]), as the area is in nonattainment for ozone. The SMAQMD’s recommended thresholds of significance for ROG and NO<sub>x</sub> are in units of pounds per day (lbs/day) and are presented in Table 1.

| <b>Table 1<br/>SMAQMD Thresholds of Significance for Ozone Precursors</b>   |                                |                               |
|---|--------------------------------|-------------------------------|
| <b>Pollutant</b>  | <b>Construction Thresholds</b> | <b>Operational Thresholds</b> |
| NO <sub>x</sub>   | 85 lbs/day                     | 65 lbs/day                    |
| ROG   | -                              | 65 lbs/day                    |
| <small>Source: Sacramento Metropolitan Air Quality Management District. SMAQMD Thresholds of Significance Table. Available at: <a href="http://www.airquality.org/ceqa/CH2ThresholdsTables5-2015.pdf">http://www.airquality.org/ceqa/CH2ThresholdsTables5-2015.pdf</a>. May 2015. Accessed February 2019.</small> |                                |                               |

In order to determine whether the proposed project would result in ozone emissions in excess of the applicable thresholds of significance presented above, the proposed project’s construction-related NO<sub>x</sub> have been estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 software – a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. The model applies inherent default values for various land uses, including trip generation rates based on the Institute of Transportation Engineers (ITE) Manual, vehicle mix, trip length, average speed, etc.

The results of the proposed project’s emissions estimates were compared to the thresholds of significance above in order to determine the associated level of impact. All CalEEMod modeling results are included as Appendix A to this IS/MND.

*Construction Emissions*

During construction of the proposed project, various types of equipment and vehicles would operate on the project site. Construction exhaust emissions would be generated from construction equipment, demolition of on-site structures, vegetation clearing and earth movement activities, construction workers’ commute, and construction material hauling for the entire construction period. These activities would involve the use of diesel- and gasoline-powered equipment that would generate emissions of criteria pollutants. Because construction equipment emits relatively low levels of ROG and because ROG emissions from other construction processes (e.g., asphalt paving, architectural coatings) are typically regulated by SMAQMD, SMAQMD has not adopted a construction emissions threshold for ROG. The SMAQMD has, however, adopted a construction emissions threshold for NO<sub>x</sub>, as shown in Table 1, above.

According to the CalEEMod results, the proposed project is estimated to result in maximum daily construction emissions of NO<sub>x</sub> as shown in Table 2.

| <b>Table 2</b>   |  |   |
|--|--|---|
| <b>Maximum Unmitigated Project Construction NO<sub>x</sub> Emissions</b> |  |   |
| <b>Pollutant</b>   | <b>Project Emissions<br/>(lbs/day)</b> | <b>SMAQMD Threshold of Significance<br/>(lbs/day)</b> |
| NO <sub>x</sub>  | 58.57                                  | 85  |
| <i>Source: CalEEMod, February 2019 (see Appendix A).</i>                 |  |   |

As shown in the table, the proposed project’s maximum unmitigated construction-related NO<sub>x</sub> emissions would be below the applicable threshold of significance of 85 lbs/day. In addition, all projects under the jurisdiction of SMAQMD are required to comply with all applicable SMAQMD rules and regulations (a complete list of current rules is available at [www.airquality.org/rules](http://www.airquality.org/rules)). Rules and regulations related to construction include, but not limited to, Rule 201 (General Permit Requirements), Rule 402 (Nuisance), Rule 403 (Fugitive Dust), Rule 404 (Particulate Matter), Rule 414 (Water Heaters, Boilers and Process Heaters Rated Less Than 1,000,000 British Thermal Units per Hour), Rule 417 (Wood Burning Appliances), Rule 442 (Architectural Coatings), Rule 453 (Cutback and Emulsified Asphalt Paving Materials), Rule 460 (Adhesives and Sealants), Rule 902 (Asbestos) and California Code of Regulations (CCR) requirements related to the registration of portable equipment and anti-idling. Furthermore, all projects are required to implement the SMAQMD’s Basic Construction Emission Control Practices (BCECP). Compliance with SMAQMD rules and regulations and BCECP would ensure that construction emissions are minimized to the extent practicable, and may result in emissions below the level presented in Table 2.

Based on the above, impacts related to the proposed project’s construction emissions of NO<sub>x</sub> would be ***less than significant***.

Question B

Similar to current operations at the project site, operation of the proposed project would result in various sources of emissions including emissions related to landscape maintenance equipment exhaust, consumer products (e.g., deodorants, cleaning products, spray paint), and mobile sources. The proposed project would include modification of an existing SUP to increase the maximum enrollment from 1,100 to 1,200 students. Current enrollment for the school is 1,137 students and projected future enrollment is approximately 1,160. As such, the proposed project would be anticipated to result in an increase of between 24 to 63 students and a similar increase in daily vehicle trips to and from the project site. The anticipated increase of approximately 24 to 63 daily vehicle trips would not be expected to result in operational emissions exceeding current CAP thresholds and operational emissions related to landscape maintenance would not increase as a result of implementation of the proposed project. Therefore, project operations would remain largely unchanged relative to what has already been approved for the project site and a **less-than-significant** impact would occur related to operational emissions.

Question C

SMAQMD rules and regulations, as well as the thresholds of significance, have been developed with the intent to ensure continued attainment of AAQS, or to work towards attainment of AAQS for which the area is currently designated nonattainment, consistent with applicable air quality plans. As future attainment of AAQS is a function of successful implementation of SMAQMD's planning efforts, according to the SMAQMD Guide, by exceeding the SMAQMD's project-level thresholds for construction or operational emissions, a project could contribute to the region's nonattainment status for ozone and PM emissions and could be considered to conflict with or obstruct implementation of the SMAQMD's air quality planning efforts.

As discussed above and below, the proposed project would result in construction and operational emissions below all applicable SMAQMD thresholds of significance. Therefore, the proposed project would not be considered to contribute to the region's nonattainment status for ozone or PM emissions and would not conflict with or obstruct implementation of the SMAQMD's air quality planning efforts. Accordingly, the proposed project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation, and a **less-than-significant** impact would occur.

Question D

As the region is designated nonattainment for PM<sub>10</sub> and PM<sub>2.5</sub>, the SMAQMD has adopted mass emissions thresholds of significance for PM<sub>10</sub> and PM<sub>2.5</sub>, which are presented in Table 3.

| <b>Table 3<br/>SMAQMD Thresholds of Significance for PM<sub>10</sub> and PM<sub>2.5</sub></b> |  |   |   |
|---|--|---|---|
| <b>Pollutant</b>  | <b>Construction<br/>Thresholds (lbs/day)</b> | <b>Operational<br/>Thresholds (lbs/day)</b> | <b>Operational<br/>Thresholds<br/>(tons/yr)</b> |
| PM <sub>10</sub>  | 80   | 80  | 14.6  |
| PM <sub>2.5</sub>   | 82   | 82  | 15  |

*Source: Sacramento Metropolitan Air Quality Management District. SMAQMD Thresholds of Significance Table. Available at: <http://www.airquality.org/ceqa/CH2ThresholdsTables5-2015.pdf>. May 2015. Accessed February 2019.*

In order to determine whether the proposed project would result in PM emissions in excess of the applicable thresholds of significance presented above, the proposed project's construction PM<sub>10</sub> and PM<sub>2.5</sub> emissions have been estimated using CalEEMod. According to the CalEEMod results, the proposed project would result in PM<sub>10</sub> and PM<sub>2.5</sub> emissions as shown in Table 4. As presented in the table, the proposed project's estimated emissions of PM<sub>10</sub> and PM<sub>2.5</sub> would be well below the applicable SMAQMD thresholds of significance.

| <b>Table 4</b>   |   |  |
|--|---|--|
| <b>Maximum Unmitigated Project Emissions of PM<sub>10</sub> and PM<sub>2.5</sub></b> |   |  |
| <b>Pollutant</b>   | <b>Project Construction Emissions<br/>(lbs/day)</b> | <b>Construction Thresholds (lbs/day)</b> |
| PM <sub>10</sub>   | 21.34   | 80                                       |
| PM <sub>2.5</sub>  | 12.46   | 82                                       |

*Source: CalEEMod, February 2019 (see Appendix A).*

Current operations within the project site involve limited sources of PM<sub>10</sub> and PM<sub>2.5</sub> emissions. Sources would include the use of fossil fueled landscaping equipment, as well as landscaping activity that creates dust, such as the use of leaf blowers on existing paved areas, or the disturbance of soil during weed abatement. Operations of the renovated sports complex would involve similar sources of dust, and operational emissions of PM<sub>10</sub> and PM<sub>2.5</sub> from the foregoing sources would not be anticipated to increase with implementation of the proposed project. Additionally, as discussed under Question B of this section, the proposed project includes modification of an existing SUP to increase the maximum enrollment from 1,100 to 1,200 students. Although the proposed project could result in increased student enrollment at the existing school, the increased number of daily vehicle trips to and from the school would be minimal and would not be anticipated to result in substantial amounts of additional PM<sub>10</sub> and PM<sub>2.5</sub> emissions.

Therefore, the proposed project is not expected to result in PM<sub>10</sub> concentrations in excess of SMAQMD's thresholds of significance, and impacts would be ***less than significant***.

Questions E through G

The proposed project would involve the demolition of an existing parking lot and the construction of a new parking lot as well as renovation of the existing sports complex. In addition, the proposed project would modify an existing SUP to increase the maximum enrollment from 1,100 to 1,200 students. The project site currently operates as a private high school campus and is, therefore, considered a sensitive receptor. Thus, the potential increase of 100 students associated with the proposed project would not introduce new sensitive receptors to the area. The project site is located in an urban area and is surrounded on all sides by existing development including single-family residential to the north and east, single family residential and commercial to the west, and a church and elementary school to the south. The surrounding development constitutes nearby sensitive receptors.

The major pollutant concentrations of concern are localized CO emissions and TAC emissions, which are addressed in further detail below.

*Localized CO Emissions*

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. Implementation of the proposed project would result in a slight increase in traffic volumes on streets near the project site due to the proposed increase in maximum allowable

student enrollment from 1,100 to 1,200 students; therefore, the proposed project would be expected to slightly increase local CO concentrations. Concentrations of CO approaching the ambient air quality standards are only expected where background levels are high, and traffic volumes and congestion levels are high. The SMAQMD's preliminary screening methodology for localized CO emissions provides a conservative indication of whether project-generated vehicle trips would result in the generation of CO emissions that contribute to an exceedance of the applicable threshold of significance. The first tier of SMAQMD's recommended screening criteria for localized CO states that a project would result in a less-than-significant impact to air quality for local CO if:

- Traffic generated by the project would not result in deterioration of intersection level of service (LOS) to LOS E or F; and
- The project would not contribute additional traffic to an intersection that already operates at LOS of E or F.

Even if a project would result in either of the above, under the SMAQMD's second tier of localized CO screening criteria, if all of the following criteria are met, the project would still result in a less-than-significant impact to air quality for localized CO:

- The project would not result in an affected intersection experiencing more than 31,600 vehicles per hour;
- The project would not contribute traffic to a tunnel, parking garage, bridge underpass, urban street canyon, or below-grade roadway; or other locations where horizontal or vertical mixing of air would be substantially limited; and
- The mix of vehicle types at the intersection is not anticipated to be substantially different from the County average (as identified by the EMFAC or CalEEMod models).

As discussed in further detail in the Transportation and Circulation section of this IS/MND, the proposed project would be expected to generate a maximum of 63 net new daily vehicle trips. The addition of 63 net new daily vehicle trips associated with operation of the project would not contribute additional traffic to intersections which currently operate at LOS E or F. Consequently, the proposed project would not meet the SMAQMD's screening criteria, and the proposed project would not be expected to result in the generation of CO concentrations that exceed the 1-hour State AAQS (i.e., 20.0 ppm) or the 8-hour State AAQS (i.e., 9.0 ppm). Therefore, the proposed project would result in less-than-significant cumulative impacts to localized CO emissions.

#### *TAC Emissions*

The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook)<sup>3</sup> provides recommendations for siting new sensitive land uses near sources typically associated with significant levels of TAC emissions, including, but not limited to, freeways and high traffic roads, distribution centers, rail yards, chrome platers, dry cleaners, and gasoline dispensing facilities. The CARB has identified DPM from diesel-fueled engines as a TAC; thus, high volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. However, the California Supreme Court decision in the case of *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal. 4th 369 clarified that CEQA does not require lead agencies to analyze the impact of existing environmental conditions on a project's future

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<sup>3</sup> California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005.

users or employees unless the project will exacerbate the existing environmental hazards or conditions. This limits the CEQA analysis of impacts from existing sources that emit odors and TACs on new receptors from a proposed development project, unless the situation is specifically required to be analyzed by statute (such as a school).

While existing sources that emit odors and TACs may not be considered a CEQA impact, local jurisdictions have the authority to protect the public health, safety, and welfare of their communities through their police powers.<sup>4</sup> In consideration of the recent California Supreme Court rulings, SMAQMD recognizes that the CEQA analysis of TACs is limited to the potential for the proposed project to exacerbate existing sources of TACs or introduce new sources of TACs. While not a CEQA issue, SMAQMD does consider the location of new sensitive receptors in proximity to existing sources of TACs to be an important environmental issue that should be addressed during the planning process for proposed projects. Considering the above, the analysis presented within this IS/MND focuses on the potential for the proposed project to introduce new sources of TACs or exacerbate existing sources of TACs.

Operational-related emissions of TACs are typically associated with stationary diesel engines or land uses that involve heavy truck traffic or idling. The proposed project would not involve any land uses or operations that would be considered major sources of TACs, including DPM. As such, the proposed project would not generate any substantial pollutant concentrations during operations. However, short-term, construction-related activities could result in the generation of TACs, specifically DPM, from on-road haul trucks and off-road equipment exhaust emissions. Construction is temporary and occurs over a relatively short duration in comparison to the operational lifetime of the proposed project. Specifically, per CalEEMod default assumptions, construction would occur over an approximately six-month period. Grading activities, when emissions would be most intensive, would occur over the period of approximately one month. The exposure period typically analyzed in health risk assessments is 30 years or greater, which is substantially longer than the six-month construction period associated with the proposed project.

The CARB Handbook acknowledges that DPM is a highly dispersive gas, the concentration of which rapidly decreases with distance from the source. The nearest sensitive receptors to the site are the single-family residences bordering the north, west, and east of the project site. Only portions of the site would be disturbed at a time, with operation of construction equipment regulated by federal, State, and local regulations, including SMAQMD rules and regulations, and occurring intermittently throughout the course of a day. Considering the short-term nature of construction activities, the regulated and intermittent nature of the operation of construction equipment, and the highly dispersive nature of DPM, the likelihood that any one sensitive receptor would be exposed to high concentrations of DPM for any extended period of time would be low. For the aforementioned reasons, project construction would not be expected to expose sensitive receptors to substantial pollutant concentrations.

As discussed previously, the project site is not located in an area identified as likely to contain NOA. Thus, sensitive receptors would not be exposed to NOA as a result of the proposed project. Overall, the proposed project would not result in the emission of TACs that would create a risk of 10 in 1 million for stationary sources.

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<sup>4</sup> California Constitution, Article XI, Section 7. Available at: [http://leginfo.legislature.ca.gov/faces/codes\\_displaySection.xhtml?lawCode=CONS&sectionNum=SEC.%207.&article=XI](http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=CONS&sectionNum=SEC.%207.&article=XI). Accessed February 2019.



### *Conclusion*

As discussed above, the proposed project would not result in the emission of substantial pollutant concentrations, including localized CO or TAC emissions, including DPM and NOA. Therefore, exposure of sensitive receptors to substantial pollutant concentrations would not occur and a ***less-than-significant*** impact would result.

### Question H

The City of Sacramento does not assess potential impacts related to GHG emissions on the basis of total emissions of GHGs. Rather, the City of Sacramento has integrated a CAP into the City's General Plan, and, thus, potential impacts related to climate change from development within the City are assessed based on the project's compliance with the City's adopted General Plan CAP Policies and Programs set forth in Appendix B of the General Plan Update. The majority of the policies and programs set forth in Appendix B are citywide efforts in support of reducing overall citywide emissions of GHG. The proposed project would include the renovation of an existing sports complex on a site that currently operates as a private high school campus and would not include any new development or modification of the existing school buildings. Continued operations of the project site for school related uses, and any resultant GHG emissions, would have been generally assumed within the City's General Plan. Various policies related to new development within the City would directly apply to the proposed project. The project's general consistency with City policies that would reduce GHG emissions from buildout of the City's General Plan is discussed below.

Goal LU 2.6.7 encourages the renovation of existing development with green building technologies/practices. Given that the proposed project would be consistent with the site's current land use and zoning designations and the surrounding areas are currently built-out, the project would be consistent with Goal LU 1.1 and Policy LU 1.1.5. Goal LU 2.5, Policy LU 2.5.1, and Policy LU 2.7.6 require that new urban developments should be well-connected, minimize barriers between uses, and create pedestrian-scaled, walkable areas. The proposed project would include construction of new pedestrian walkways within the project site and the installation of energy-efficient LED lighting for night time sports practices and games. In addition, the proposed on-site drive aisles and pedestrian walkways would connect with existing development within the northern and central portions of the site. Thus, the proposed project would comply with Goal LU 2.5, Policy LU 2.5.1, and Policy LU 2.7.6.

The proposed project would maintain compliance with the California Building Standards Code (CBSC), which includes the California Building Energy Efficiency Standards and the California Green Building Code. The CBSC, and the foregoing standards and codes, increase the sustainability of new development through requiring energy efficiency and sustainable design practices (Policy ER 6.1.7). Such sustainable design would support the City's Policy U 6.1.5, which states that energy consumption per capita should be reduced as compared to the year 2005. Consistent with the above policies and energy efficiency standards, the proposed project would include the installation of energy efficient LED light fixtures to illuminate the sports complex and playing fields during nighttime games and practice activities.

The Master EIR concluded that buildout of the City's General Plan, including the project site, would not result in a conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. The proposed project would be consistent with the City's General Plan land use and zoning designations for the site as well as the policies discussed above that are intended to reduce GHG emissions from buildout of the City's General Plan. Thus, GHG emissions

from operation of the proposed project were previously analyzed in the Master EIR. Considering the project's consistency with the City's General Plan and the general consistency with the City's General Plan policies intended to reduce GHG emissions, the foregoing annual emissions related to operations of the proposed project have been previously analyzed. Consequently, the proposed project would result in a *less-than-significant* impact.

### **Mitigation Measures**

None required.

### **Findings**

The proposed project would not result in any significant environmental effects relating to Air Quality and GHG emissions. Therefore, implementation of the proposed project would have no additional significant environmental effects beyond what was previously analyzed in the Master EIR.

| Issues:  | Effect will be studied in the EIR | Effect can be mitigated to less than significant | No additional significant environmental effect |
|--|-----------------------------------|--|--|
| <b>3. <u>BIOLOGICAL RESOURCES</u></b><br>Would the proposal:   |                                   |  |  |
| A) Create a potential health hazard, or use, production or disposal of materials that would pose a hazard to plant or animal populations in the area affected?   |                                   |  | X  |
| B) Result in substantial degradation of the quality of the environment, reduction of the habitat, reduction of population below self-sustaining levels of threatened or endangered species of plant or animal species? |                                   | X  |  |
| C) Affect other species of special concern to agencies or natural resource organizations (such as regulatory waters and wetlands)?   |                                   |  | X  |

### **Environmental Setting**

The majority of the City of Sacramento has been developed with residential, commercial, and other urban development; however, valuable plant and wildlife habitat still exists within the City. Generally, plant and wildlife habitats are located primarily outside of the City boundaries in the northern, southern, and eastern portions of the City, but also occur along river and stream corridors and on a number of undeveloped parcels. Habitats that are present in the City include annual grasslands, riparian woodlands, oak woodlands, riverine, ponds, freshwater marshes, seasonal wetlands, and vernal pools.

The proposed project is located within an area of the City that is urbanized and surrounded by existing development that includes single-family residential to the north and west, single-family residential and commercial to the west, and a church and elementary school to the south. The project site was developed in 1957 with buildings associated with the Christian Brothers High School and has operated as a private high school to this day. The western portion of the project site contains the 18 school buildings and the main parking lot while the eastern portion of the site contains the sports complex proposed for renovation.

Initial development and construction of the project site would have included grading and trenching activities to install on-site utility infrastructure and develop the site with the associated school buildings. Since that time, ongoing school activities and regular landscaping maintenance of the site and sports fields ensure that the site has been highly disturbed and lacks suitable habitat for special-status plant or animal species. In addition, ongoing use of the on-site sports complex and practice fields on the eastern portion of the project site would similarly reduce the potential for special-status species to occur on-site.

The proposed project would include the construction of a new parking area in the southern portion of the project site, adjacent to the existing main parking lot. The proposed new parking area is currently undeveloped and contains a number of trees consisting of black acacia (*acacia melanoxylon*), redwood (*sequoia sempervirens*), black walnut (*juglans hindsii*), interior live oak (*quercus wislizenii*), and eucalyptus trees. The area is regularly disked for weed abatement.

### Special-Status Species

Special-status species are plants and animals in the following categories:

- Listed or proposed for listing as threatened or endangered under federal Endangered Species Act (ESA) or candidates for possible future listing (FWS 2013);
- Listed or candidates for listing by the state of California as threatened or endangered under the California Endangered Species Act (CESA);
- Listed as Fully Protected under the California Fish and Game Code;
- Animals identified by CDFW as species of special concern;
- Taxa considered by CDFW to be “rare, threatened, or endangered in California” and assigned a California Rare Plant Rank (CRPR). The CDFW system includes five rarity and endangerment ranks for categorizing plant species of concern, which are summarized as follows:
  - CRPR 1A Plants presumed to be extinct in California;
  - CRPR 1B Plants that are rare, threatened, or endangered in California and elsewhere;
  - CRPR 2 Plants that are rare, threatened, or endangered in California but more common elsewhere;
  - CRPR 3 Plants about which more information is needed (a review list); and
  - CRPR 4 Plants of limited distribution (a watch list).

A locally significant species is a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125[c]) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G); or otherwise meets the definition of rare or endangered under CEQA §15380(b) and (d).

A search of the CDFW Natural Diversity Database (CNDDDB) was performed for the project site quadrangle as well as the eight surrounding quadrangles (i.e., Taylor Monument, Rio Linda, Citrus Heights, Sacramento West, Sacramento East, Carmichael, Clarksburg, Florin, and Elk Grove) to determine which special-status plant and wildlife species are known to occur within the region. Based on the results of the CNDDDB query, a total of 17 special-status plant species and 31 special-status wildlife species have been identified within the nine-quadrangle region.

#### *Special-Status Plant Species*

Of the 17 special-status plant species identified, all species were eliminated from further consideration due to habitat requirements (i.e., riparian, wetland, and/or forest habitats), which are not present on the project site. In addition, the entirety of the project site has been developed and used as a private high school campus since 1957. As such, the site has been previously graded and is highly disturbed due to ongoing activities associated with the high school such as site maintenance, weed abatement, and sporting events. Given the lack of sufficient on-site habitat, the highly disturbed nature of the site, and the on-going weed abatement within on-site fields, special-status plants are not likely to occur on-site.

#### *Special-Status Wildlife Species*

Of the 31 special-status wildlife species identified, 30 species were eliminated from further consideration due to habitat requirements (i.e., aquatic, wetland, forest, and/or coastal habitats), which are not present on the project site. As noted above, the project site is currently developed

and the site is characterized by a high level of disturbance. In addition, the project site is located within an urban area and is surrounded by existing development. Nonetheless, the on-site trees could present marginal habitat for the Swainson's hawk or other nesting birds. California Fish and Game Code §3503 protects most birds and their nests. The federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711) also protects most birds and their nests, including most non-migratory birds in California. Birds protected by the MBTA have the potential to nest in the existing trees located along the southeastern boundary of the project site.

### **Standards of Significance**

For purposes of this environmental document, an impact would be significant if any of the following conditions or potential thereof, would result with implementation of the proposed project:

- Creation of a potential health hazard, or use, production or disposal of materials that would pose a hazard to plant or animal populations in the area affected;
- Substantial degradation of the quality of the environment, reduction of the habitat, reduction of population below self-sustaining levels of threatened or endangered species of plant or animal; or
- Affect other species of special concern to agencies or natural resource organizations (such as regulatory waters and wetlands).
- For the purposes of this document, "special-status" has been defined to include the 23 species of plants and animals identified as special status species under the NBHCP.

### **Answers to Checklist Questions**

#### Question A

The use, handling, and storage of hazardous materials is regulated by both the Federal Occupational Safety and Health Administration (Fed/OSHA) and the California Occupational Safety and Health Administration (Cal/OSHA). Cal/OSHA is responsible for developing and enforcing workplace safety regulations.

The proposed project consists of the renovation of the existing high school sports complex to include a new stadium complex, practice fields, energy-efficient lighting and other improvements. The current use of the site as a private high school campus is not typically associated with the routine transport, use, disposal, or generation of substantial amounts of hazardous materials; however, common household cleaning products which could contain potentially hazardous chemicals may be used on-site as part of routine maintenance. Nevertheless, due to the regulations of cleaning products and the amount utilized on the site, routine uses of such products would not represent a substantial risk to public health or the environment. In addition, the routine transport, use, and disposal of hazardous materials are regulated by existing federal, state, and local regulations, and the proposed project would not involve the use, production, disposal, or handling of materials that could pose a hazard to plant or animal populations in the area beyond what is used for current on-site operations. Therefore, the proposed project would result in a ***less-than-significant*** impact.

#### Question B

The proposed project would include the renovation of an existing high school sports complex and the demolition of an existing parking lot. A new parking lot would be constructed in the southern

portion of the project site in order to offset the loss of parking spaces associated with the demolition of the existing parking lot. Construction of the proposed new parking lot at the southern portion of the project site would require removal of existing on-site trees.

### *Special-Status Species*

As noted previously, special-status plant species are not likely to occur on-site. Thus, the proposed development would not result in adverse effects to special-status plants. However, the project site contains marginal habitat for Swainson's hawk and nesting birds protected by the MBTA. Ground-disturbing activities and tree removal associated with the proposed project could potentially result in adverse effects to such species.

### *Trees*

Within the City of Sacramento, a permit is required to perform regulated work on "City Trees" or "Private Protected Trees" (which includes trees formerly referred to as "Heritage Trees"). City trees are characterized as trees partially or completely located in a City park, on City owned property, or on a public right-of-way, including any street, road, sidewalk, park strip, mow strip, or alley. Private protected trees are defined as trees designated to have special historical value, special environmental value, or significant community benefit. Private protected trees are:

- All native trees at 12-inch Diameter Standard Height (DSH). Native trees include: Coast, Interior, Valley and Blue Oaks, CA Sycamore and Buckeye.
- All trees at 32-inch DSH with an existing single family or duplex dwelling.
- All trees at 24-inch DSH on undeveloped land or any other type of property such as commercial, industrial, and apartments.

A Tree Inventory conducted by Fallen Leaf Tree Management on July 30, 2018 for the project site, determined that approximately five on-site trees would be removed during development of the southern portion of the project site with the proposed new parking lot. However, the on-site trees slated for removal do not qualify as Private Protected Trees under the above criteria. Thus, the project applicant would not be required to obtain a Tree Permit from the City prior to tree work/removal pursuant to Chapter 12.56.050 of the City's Municipal Code.

### *Conclusion*

Implementation of the proposed project could have the potential to affect Swainson's hawk, and nesting birds protected by the MBTA. The proposed project would be considered to result in a **potentially significant** impact.

### Question C

Currently, the entire site has been developed with the existing structures associated with the high school campus which include 18 school buildings, parking areas, sports stadiums and fields, and other associated improvements. The southern portion of the site proposed for construction of the new parking area has been heavily graded and is generally characterized by nearly level to gently sloping terrain that is regularly disked for weed abatement. The site does not contain any streams, ponds, ditches, or other aquatic features. Thus, the project site does not contain any water features that may be considered to be potentially jurisdictional waters of the U.S. or the State. Consequently, the proposed project would result in a **less-than-significant** impact with regard to



other species of special concern to agencies or natural resource organizations such as regulatory waters and wetlands.

### **Mitigation Measures**

Implementation of the following mitigation measure would reduce impacts related to Biological Resources to a *less-than-significant* level.

#### *Raptors and Other Birds Protected by the MBTA or the California Fish and Game Code*

3-1 *If tree removal or construction activities on the project site are to begin during the nesting season for raptors or other protected bird species in the region (generally February 15-September 15), a qualified biologist shall be retained by the project applicant to conduct pre-construction surveys in areas of suitable nesting habitat for common raptors (including Swainson's hawk) and other bird species protected by the MBTA or California Fish and Game Code located within 250 feet of project activity. Surveys shall be conducted no more than 10 days before tree removal or ground disturbance is expected to occur. The pre-construction surveys shall be submitted to the City's Community Development Department. If active nests are not found, further mitigation is not required. If active nests are found, the construction contractor shall avoid impacts on such nests by establishing a no-disturbance buffer around the nest. The appropriate buffer size for all nesting birds shall be determined by a qualified biologist, but shall extend at least 50 feet from the nest. Buffer size will vary depending on site-specific conditions, the species of nesting bird, nature of the project activity, the extent of existing disturbance in the area, visibility of the disturbance from the nest site, and other relevant circumstances.*

*Construction activity shall not occur within the buffer area of an active nest until a qualified biologist confirms that the chicks have fledged and are no longer dependent on the nest, or the nesting cycle has otherwise completed. Monitoring of the nest by a qualified biologist during construction activities shall be required if the activity has the potential to adversely affect the nest. The qualified biologist shall determine the status of the nest at least weekly during the nesting season. If construction activities cause the nesting bird to vocalize, make defensive flights at intruders, get up from a brooding position, or fly off the nest, then the no-disturbance shall be increased until the agitated behavior ceases.*

### **Findings**

All additional significant environmental effects of the proposed project relating to Biological Resources can be mitigated to less-than-significant levels. Therefore, implementation of the proposed project would have no additional significant environmental effects beyond what was previously analyzed in the Master EIR.

| Issues:   | Effect will be studied in the EIR | Effect can be mitigated to less than significant | No additional significant environmental effect |
|---|-----------------------------------|--|--|
| <b>4. CULTURAL RESOURCES</b><br>Would the project:  |                                   |  | X  |
| A) Cause a substantial adverse change in the significance of a historical or archaeological resource as defined in § 15064.5? |                                   |  | X  |
| B) Directly or indirectly destroy a unique paleontological resource?  |                                   |  | X  |

### **Environmental Setting**

The City of Sacramento and the surrounding area are known to have been occupied by Native American groups for thousands of years prior to settlement by non-Native peoples. Archaeological materials, including human burials, have been found throughout the City. Human burials outside of formal cemeteries often occur in prehistoric contexts. Areas of high sensitivity for archaeological resources, as identified in the 2035 General Plan Background Report, are located within close proximity to the Sacramento and American Rivers and other watercourses.

The 2035 General Plan land use diagram designates a wide swath of land along the American River as Parks, which limits development and impacts on sensitive prehistoric resources. High sensitivity areas may be found in other areas related to the ancient flows of the rivers, with differing meanders than found today; however, all such areas are outside of the immediate project vicinity. The 2035 General Plan Background Report also defines moderate sensitivity areas, which are areas such as creeks, other watercourses, and high spots near waterways where the discovery of villages is unlikely, but campsites or special use sites may have existed. Moderate areas are often disturbed by siltation, or development; however, discovery of new archaeological resources is still possible.

Currently, the project site is developed with a private high school campus that has been in operation since 1957. The entirety of the site has been subject to extensive ground disturbance as a result of prior grading and repeated use for various school and sporting activities. The proposed project would include the renovation of the existing sports complex but would not include any modification of the existing school buildings.

A record search of the California Historic Resources Information System (CHRIS) was conducted to determine whether the project site contains any recorded cultural resources. According to the records search, the project site does not contain any recorded prehistoric-period cultural resources or historic-period cultural resources. Given the extent of known cultural resources and the environmental setting of the site, the potential for prehistoric-period cultural resources to occur on the project site is relatively low.

### **Standards of Significance**

For purposes of this Initial Study, cultural resource impacts may be considered significant if construction and/or implementation of the proposed project would result in one or more of the following:

- Cause a substantial change in the significance of a historical or archaeological resource as defined in CEQA Guidelines Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource; or
- A substantial adverse change in the significance of such resources.

### Summary of Analysis under the 2035 General Plan Master EIR and Applicable General Plan Policies

The Master EIR evaluated the potential effects of development under the 2035 General Plan on prehistoric and historic resources. See Chapter 4.4.

General Plan policies identified as reducing such effects call for identification of resources on project sites (Policy HCR 2.1.1), implementation of applicable laws and regulations (Policy HCR 2.1.2), early consultation with owners and land developers to minimize effects (Policy HCR 2.1.10) and encouragement of adaptive reuse of historic resources (Policy HCR 2.1.14). Demolition of historic resources is deemed a last resort (Policy HCR 2.1.15).

The Master EIR concluded that implementation of the 2035 General Plan would have a significant and unavoidable effect on historic resources and archaeological resources (Impacts 4.4-1, 2).

### Answers to Checklist Questions

#### Questions A and B

Due to the ongoing use and highly disturbed nature of the project site, surface cultural resources would not likely be found on-site during grading and construction. The CHRIS search conducted for the proposed project determined that the project site is not sensitive for cultural resources. Given the highly disturbed nature of the site and the relatively minimal excavation and grading activities associated with the proposed project, the likelihood of encountering previously undiscovered cultural resources is low. Therefore, the proposed project would have a ***less-than-significant*** impact related to damaging or destroying prehistoric cultural resources.

#### Mitigation Measures

None required.

#### Findings

The proposed project would have no additional project-specific environmental effects relating to Cultural Resources. Therefore, implementation of the proposed project would have no additional significant environmental effects beyond what was previously analyzed in the Master EIR.

| Issues:   | Effect will be studied in the EIR | Effect can be mitigated to less than significant | No additional significant environmental effect |
|---|-----------------------------------|--|--|
| <p><b>5. <u>GEOLOGY AND SOILS</u></b></p> <p>A) Would the project allow a project to be built that will either introduce geologic or seismic hazards by allowing the construction of the project on such a site without protection against those hazards?</p> |                                   |  | X  |

## **Environmental Setting**

### *Seismicity*

The Sacramento 2035 General Plan Master EIR identifies the City of Sacramento as being subject to potential damage from earthquake groundshaking at a maximum intensity of VIII on the Modified Mercalli scale (SGP Master EIR, Table 6.5-6). The closest potentially active faults to the project area include the Foothills Fault System, located approximately 23 miles from Sacramento; the Great Valley fault, located 26 miles from Sacramento; Concord-Green Valley Fault, located approximately 38 miles from Sacramento; and the Hunting Creek-Berryessa Fault, located 38 miles from Sacramento. The Foothills Fault System is considered capable of generating an earthquake with a Richter-Scale magnitude of 6.5; the Great Valley Fault is capable of generating an earthquake with a magnitude of 6.8; the Concord-Green Valley fault is capable of generating an earthquake with a magnitude 6.9, and the Hunting Creek-Berryessa Fault could generate a 6.9 magnitude earthquake.

### *Topography*

Terrain in the City of Sacramento features very little relief and the potential for slope instability within the City is minor due to the relatively flat topography of the area. The topography of the project site slopes generally towards the east at a gradient of approximately 0.2 percent, with a range. Seismically-induced landslides or landslides induced by soil failure typically occur on slopes with gradients of 30 percent or higher.

### *Regional Geology*

The project site is located within the Great Valley Geomorphic Province. The Great Valley is bordered to the north by the Cascade and the Klamath Ranges, to the west by the Coast Ranges, to the east by the Sierra Nevada Mountain Range, and to the south by the transverse ranges. The valley formed by tilting of Sierran Block with the western side dropping to form the valley and the eastern side being uplifted to the form the Sierra Nevada Mountain Range. The valley is characterized by a thick sequence of sediments derived from erosion of the adjacent Sierra Nevada Mountain Range to the east and the Coast Range to the west. These sedimentary rocks are mainly Cretaceous in age. The depths of the sediments vary from a thin veneer at the edges of the valley to depths in excess of 50,000 feet near the western edge of the valley.

### *Project Site*

The Natural Resources Conservation Service (NRCS) provides maps and descriptions of soils throughout the United States. According to the NRCS Web Soil Survey conducted for the project site, the site is underlain with San Joaquin-Urban land complex, 0 to 2 percent slopes. The project site has been developed with the Christian Brothers private high school campus since 1957. The campus is comprised of 18 school buildings located in the western portion of the site and the sports complex and practice fields in the eastern portion of the site. The proposed project would include renovations to the existing sports complex in addition to the demolition of an existing central parking lot and the construction of a new parking lot in the southern portion of the project site. The proposed project would not include any alterations to the existing school buildings.

### **Standards of Significance**

For the purposes of this Initial Study, an impact is considered significant if it allows a project to be built that will either introduce geologic or seismic hazards by allowing the construction of the project on such a site without protection against those hazards.

### **Summary of Analysis under the 2035 General Plan Master EIR and Applicable General Plan Policies**

Chapter 4.5 of the Master EIR evaluated the potential effects related to seismic hazards, underlying soil characteristics, slope stability, erosion, existing mineral resources and paleontological resources in the City. Implementation of identified policies in the 2035 General Plan reduced all effects to a less-than-significant level. Policy EC 1.1.1 requires regular review of the City's seismic and geologic safety standards, and Policy EC 1.1.2 requires geotechnical investigations for project sites to identify and respond to geologic hazards, when present.

### **Answers to Checklist Questions**

#### Question A

As discussed above in the Environmental Setting section, the project site is not located on or in the vicinity of an Alquist-Priolo Fault Zone and is in an area of the City of Sacramento that is topographically flat. As such, the potential for fault rupture on the project site is considered to be low. In addition, given that the site is relatively flat and is not located adjacent to any steep slopes, the potential for seismically-induced or soil failure landslides does not exist.

Given that the project site is already built-out and the renovations associated with the proposed project would focus primarily on the sports complex, the proposed project would not introduce any new inhabitable structures or change the use of the existing structures on the site. Any construction activities associated with the proposed project would be required to be compliant with all applicable regulations related to seismic and geologic safety per the CBSC. Thus, the proposed project would not introduce any new geologic or seismic hazards in excess of what already occurs on the project site.

In addition, implementation of the proposed project would include grading and excavation during the construction period and would, therefore, require a Grading and Erosion and Sediment Control Plan to be submitted and approved per Chapter 15.88 of the City's Municipal Code. Chapter 15.88 of the Municipal Code (Grading and Erosion and Sediment Control) is used to regulate grading on property within the City of Sacramento to safeguard life, limb, health, property and the public

welfare; to avoid pollution of watercourses with nutrients, sediments, or other materials generated by surface runoff from construction activities; to comply with the City's National Pollution Discharge Elimination System (NPDES) Permit; and, to ensure graded sites within the City comply with all applicable City standards and ordinances.

### *Conclusion*

The proposed sports complex renovation is consistent with the City's 2035 General Plan. As discussed in the Master EIR, the policies included in the City's 2035 General Plan, as well as the requirements of the CBSC and the City's Municipal Code would ensure that development in compliance with the City's 2035 General Plan would not result in significant impacts related to seismic or geologic hazards. Therefore, the renovation of the sports complex and associated improvements would not introduce geologic or seismic hazards at the project site and a ***less-than-significant*** impact would occur.

### **Mitigation Measures**

None required.

### **Findings**

The proposed project would not result in any significant environmental effects relating to Geology and Soils. Therefore, implementation of the proposed project would have no additional significant environmental effects beyond what was previously analyzed in the Master EIR.



| Issues:  | Effect will be studied in the EIR | Effect can be mitigated to less than significant | No additional significant environmental effect |
|--|-----------------------------------|--|--|
| 6. <b>HAZARDS</b><br>Would the project:  |                                   |  | X  |
| A) Expose people (e.g., residents, pedestrians, construction workers) to existing contaminated soil during construction activities?      |                                   |  | X  |
| B) Expose people (e.g., residents, pedestrians, construction workers) to asbestos-containing materials or other hazardous materials?     |                                   |  | X  |
| C) Expose people (e.g., residents, pedestrians, construction workers) to existing contaminated groundwater during dewatering activities? |                                   |  | X  |

### Environmental Setting

The City of Sacramento Fire Department is the first responder for fire, accident, and hazardous materials emergencies in the project area. The Department maintains two Hazardous Materials (HazMat) Program teams at fire stations in the project region; Truck 5 is stationed in Downtown at 8<sup>th</sup> and Broadway, and Truck 20 is stationed at Arden Way and Del Paso Boulevard. The HazMat Teams respond to hazardous materials incidents. All members of the HazMat Teams are trained in accordance with National Fire Protection Association standards and are certified by the California Specialized Training Institute as Hazardous Materials Specialists. The Teams are responsible for responding to any release of hazardous materials at the project site or in the vicinity of the project site.

The project site has operated as a private high school since opening in 1957. Subsequent construction of buildings and other site improvements have occurred on-site since the school's inception. The school is surrounded by existing development in the form of single-family residential, commercial, a church, and an elementary school.

A search of the Department of Toxic Substances Control (DTSC) Envirostor database Hazardous Waste and Substances Site List (Cortese) determined that the project site was not included on a list of hazardous materials sites compiled by the County pursuant to Government Code 65962.5. In addition, according to mapping prepared by the California Geological Survey, the only area within Sacramento County that is likely to contain NOA is eastern Sacramento County; thus, the project site is not located in an area identified as likely to contain NOA.<sup>5</sup>

### Standards of Significance

For the purposes of this Initial Study, an impact is considered significant if the proposed project would:

- Expose people (e.g., residents, pedestrians, construction workers) to existing contaminated soil during construction activities;

<sup>5</sup> Department of Conservation, California Geological Survey. *Relative Likelihood for the Presence of Naturally Occurring Asbestos in Eastern Sacramento County, California*. 2006.

- Expose people (e.g., residents, pedestrians, construction workers) to asbestos-containing materials or other hazardous materials; or
- Expose people (e.g., residents, pedestrians, construction workers) to existing contaminated groundwater during dewatering activities.

### **Summary of Analysis under the 2035 General Plan Master EIR and Applicable General Plan Policies**

The Master EIR evaluated effects of development on hazardous materials, emergency response and aircraft crash hazards (see Chapter 4.6). Implementation of the General Plan may result in the exposure of people to hazards and hazardous materials during construction activities, and exposure of people to hazards and hazardous materials during the life of the General Plan. Impacts identified related to construction activities and operations were found to be less than significant. Policies included in the 2035 General Plan, including PHS 3.1.1 (investigation of sites for contamination) and PHS 3.1.2 (preparation of hazardous materials actions plans when appropriate) were effective in reducing the identified impacts.

### **Answers to Checklist Questions**

#### Questions A through C

The proposed project would include the demolition of a small paved parking area located in the center of the site and the construction of a new paved parking area in the southern portion of the project site. Further site improvements would include site grading to accommodate the renovation of the existing sports stadium and practice fields and would include a new six-lane, all-weather track, a new main field with artificial turf surface, new bleachers with a seating capacity of 1,300 seats, new field lighting, and the installation of a new electrical conduit to power future practice field lighting.

As stated above, the project site is not located in an area known to contain existing contaminated soils. As such, grading and demolition activities associated with implementation of the proposed project would not be expected to expose construction workers or nearby residents to contaminated soils. In addition, the proposed project would not include any modifications to the existing school buildings or associated infrastructure located in the western portion of the project site. Asbestos-containing materials are not anticipated to have been used during the construction of the existing parking areas. Thus, because demolition activities would be limited to existing parking lot areas and not the existing school buildings, the proposed project would not be expected to expose construction workers or nearby residents to asbestos-containing materials during project construction or demolition activities.

The depth to groundwater at the site is currently unknown. While the proposed project would include site grading and minimal trenching to accommodate the installation of an electrical conduit for future practice field lighting, construction activities would not be expected to result in excavation to depths that would expose construction workers to groundwater. Thus, the proposed project would not require dewatering activities which could expose construction workers or nearby residents to existing contaminated groundwater.

Based on the above, implementation of the proposed project would not be expected expose construction workers or other nearby sensitive receptors to contaminated soils, asbestos-

containing materials, or contaminated groundwater during construction activities. Therefore, the proposed project would result in a ***less-than-significant*** impact related to hazards.

### **Mitigation Measures**

None required.

### **Findings**

The proposed project would not result in any significant environmental effects related to Hazards. Therefore, implementation of the proposed project would have no additional significant environmental effects beyond what was previously analyzed in the Master EIR.

| Issues:   | Effect will be studied in the EIR | Effect can be mitigated to less than significant | No additional significant environmental effect |
|---|-----------------------------------|--|--|
| <b>7. HYDROLOGY AND WATER QUALITY</b>   |                                   |  |  |
| Would the project:  |                                   |  |  |
| A) 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? |                                   |  | X  |
| B) Substantially increase the exposure of people and/or property to the risk of injury and damage in the event of a 100-year flood?   |                                   |  | X  |

### Environmental Setting

The project site is located in a highly developed area of Sacramento. Currently, the site is developed with a private high school campus, which includes paved parking areas, walkways, buildings, and sidewalks, as well as a sports complex in the eastern portion of the site. The developed areas of the site contain existing storm drainage infrastructure that directs stormwater runoff flows to the City’s storm drain mains in Martin Luther King Jr. Boulevard.

The City of Sacramento’s Grading Ordinance requires that development projects comply with the requirements of the City’s Stormwater Quality Improvement Plan (SQIP). The SQIP outlines the priorities, key elements, strategies, and evaluation methods of the City’s Stormwater Management Program. The Program is based on the NPDES municipal stormwater discharge permit. The comprehensive Program includes pollution reduction activities for construction sites, industrial sites, illegal discharges and illicit connections, new development, and municipal operations. In addition, before the onset of any construction activities, where the disturbed area is one acre or more in size, projects are required to obtain coverage under the NPDES General Construction Permit and include erosion and sediment control plans. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater and other non-point source runoff. Measures that reduce or eliminate post-construction-related water quality problems range from source controls, such as reduced surface disturbance, to treatment of polluted runoff, such as detention or retention basins. The City’s SQIP and the *Stormwater Quality Design Manual for the Sacramento Region* (Sacramento Stormwater Quality Partnership 2014) include BMPs to be implemented to mitigate impacts from new development and redevelopment projects.

The Federal Emergency Management Agency (FEMA) publishes Flood Insurance Rate Maps (FIRMs) that delineate flood hazard zones for communities. The project site is designated by FIRM *Community Panel Number 06067C0190H*<sup>6</sup> as being located within an area designated as Zone X, which is applied to areas determined to be outside the 0.2 percent annual chance floodplain. FEMA does not have building regulations for development in areas designated Zone X and would not require mandatory flood insurance for structures in Zone X.

<sup>6</sup> Federal Emergency Management Agency. *Flood Insurance Rate Map Community Panel Number 06067C0190H*. August 16, 2012.

Section 13.08.145 of the Sacramento City Municipal Code (Mitigation of drainage impacts; design and procedures manual for water, sanitary sewer, storm drainage, and water quality facilities) requires that when a property would contribute drainage to the storm drain system or combined sewer system, all stormwater and surface runoff drainage impacts resulting from the improvement or development must be fully mitigated to ensure that the improvement or development does not affect the function of the storm drain system or combined sewer system, and that an increase in flooding or in water surface elevation that adversely affects individuals, streets, structures, infrastructure, or property does not occur. The project is within the service area of the Sacramento Area Sewer District (SASD). New connections within the SASD service area are subject to sewer impact fees, which are used to recover a share of SASD's cost for any new system facilities necessary to service new connections.<sup>7</sup> In addition to sewer service provided by SASD, the project would also be within the Sacramento Regional County Sanitation District (SRCSD). In order to connect with the SRCSD wastewater conveyance and treatment system, developers must pay impact fees.

### **Standards of Significance**

For purposes of this Initial Study, impacts to hydrology and water quality may be considered significant if construction and/or implementation of the proposed project would result in the following impacts that remain significant after implementation of General Plan policies or mitigation from the General Plan MEIR:

- 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 proposed project; or
- Substantially increase the exposure of people and/or property to the risk of injury and damage in the event of a 100-year flood.

### **Summary of Analysis under the 2035 General Plan Master EIR and Applicable General Plan Policies**

Chapter 4.7 of the Master EIR evaluates the potential effects of the 2035 General Plan as they relate to surface water, groundwater, flooding, stormwater and water quality. Potential effects include water quality degradation due to construction activities (Impacts 4.7-1, 4.7-2), and exposure of people to flood risks (Impacts 4.7-3). Policies included in the 2035 General Plan, including a directive for regional cooperation (Policies ER 1.1.2, EC 2.1.1), comprehensive flood management (Policy EC 2.1.23), and construction of adequate drainage facilities with new development (Policy ER 1.1.1 to ER 1.1.10) were identified that the Master EIR concluded would reduce all impacts to a less-than-significant level.

### **Answers to Checklist Questions**

#### Question A

The proposed project has the potential to degrade water quality during construction activities and operations. Further details regarding the potential effects are provided below.

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<sup>7</sup> Sacramento Area Sewer District. *Sewer Ordinance SDI-0072*. Effective May 27, 2016.

### *Construction*

Construction activities associated with the proposed project would create the potential to degrade water quality from increased sedimentation and increased discharge (increased flow and volume of runoff) associated with storm water runoff. Disturbance of site soils would increase the potential for erosion from storm water. The State Water Resources Control Board (SWRCB) adopted a statewide general NPDES permit for storm water discharges associated with construction activity. Dischargers whose projects disturb one or more acres of soil are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009- 0009-DWQ. Construction activity subject to the permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation. The proposed project would include disturbance of approximately 3.72 acres within the 24.25-acre project site; thus, the project would be subject to the aforementioned regulations.

The City's SQIP contains a Construction Element that guides in implementation of the NPDES Permit for Storm Water Discharges Associated with Construction Activity. This General Construction Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP should contain a site map(s) which shows the construction site perimeter, existing and proposed structures, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and drainage patterns across the site. The SWPPP must list BMPs the discharger would use to protect stormwater runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutant to be implemented if a failure of BMPs occurs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP. Compliance with City requirements to protect storm water inlets would require the developer to implement BMPs, such as the use of straw bales, sandbags, gravel traps, and filters; erosion control measures such as vegetation and physical stabilization; and sediment control measure such as fences, dams, barriers, berms, traps, and basins. City staff inspects and enforces the erosion, sediment and pollution control requirements in accordance with City codes (Grading, Erosion and Sediment Control ordinance).

Conformance with City regulations and permit requirements such as integration of the City's MS4 permit, along with implementation of BMPs would ensure that construction activities of the proposed project would result in a less-than-significant impact related to water quality.

### *Operations*

The proposed project would result in the addition of approximately 2.1 acres of impervious surfaces to the site. Stormwater runoff from impervious areas created as part of the proposed stadium complex renovations would sheet flow to pervious grass and dirt areas to the north and south of the stadium complex. In addition, stormwater runoff resulting from the new parking area would be directed through a series of storm drains to pervious surfaces to the south of the parking lot (see Figure 7).

Additional stormwater measures would include the widening of an existing six-foot-wide vegetated swale extending along the southeastern portion of the existing parking lot in order to meet detention and water quality requirements. The stormwater treatment measures would comply with the latest edition of the *Stormwater Quality Design Manual for the Sacramento and South Placer Regions*.



The City Department of Utilities would review the Improvement Plans for the proposed project prior to approval to ensure that adequate water quality control facilities are incorporated. It should be noted that the proposed project would comply with Section 13.08.145, Mitigation of drainage impacts; design and procedures manual for water, sanitary sewer, storm drainage, and water quality facilities, of the City of Sacramento Municipal Code, which requires the following:

"When property that contributes drainage to the storm drain system or combined sewer system is improved or developed, all stormwater and surface runoff drainage impacts resulting from the improvement or development shall be fully mitigated to ensure that the improvement or development does not affect the function of the storm drain system or combined sewer system, and that there is no increase in flooding or in water surface elevation that adversely affects individuals, streets, structures, infrastructure, or property."

Therefore, the proposed project would not substantially degrade water quality or violate any water quality objectives set by the SWRCB, due to increases in sediments and other contaminants generated by operations.

### *Conclusion*

Design of the project site and conformance with City and State regulations would ensure that a substantial degradation to water quality or violation of any water quality objectives due to increases in sediments and other contaminants generated by construction and/or development of the proposed project would not occur. The proposed project design provides for treatment and detention of all additional runoff water resultant of the proposed project; therefore, discharge of polluted runoff to surface waters or groundwater would not result from the proposed project. Furthermore, the proposed project would comply with LID treatment requirements associated with the City's MS4 permit. Thus, a ***less-than-significant*** impact would occur related to substantial degradation of water quality or violation of any water quality objectives set by the SWRCB due to increases in sediments and other contaminants generated by construction and/or development of the proposed project.

### Question B

As described above, the project site is not located within a 100-year flood hazard area. As such, the proposed project would not place housing or structures within a 100-year flood hazard area and would not expose people or property to the risk of injury or damage in the event of a 100-year flood. Thus, a ***less-than-significant*** impact would occur.

### **Mitigation Measures**

None required.

### **Findings**

The proposed project would have no additional project-specific environmental effects relating to Hydrology and Water Quality. Therefore, implementation of the proposed project would have no additional significant environmental effects beyond what was previously analyzed in the Master EIR.

| Issues:   | Effect will be studied in the EIR | Effect can be mitigated to less than significant | No additional significant environmental effect |
|---|-----------------------------------|--|--|
| 8. <b>NOISE</b><br>Would the project:   |                                   |  |  |
| A) Result in exterior noise levels in the project area that are above the upper value of the normally acceptable category for various land uses due to the project's noise level increases?   |                                   |  | X  |
| B) Result in residential interior noise levels of 45 dBA L <sub>dn</sub> or greater caused by noise level increases due to the project?   |                                   |  | X  |
| C) Result in construction noise levels that exceed the standards in the City of Sacramento Noise Ordinance?   |                                   |  | X  |
| D) Permit existing and/or planned residential and commercial areas to be exposed to vibration-peak-particle velocities greater than 0.5 inches per second due to project construction?        |                                   |  | X  |
| E) Permit adjacent residential and commercial areas to be exposed to vibration peak particle velocities greater than 0.5 inches per second due to highway traffic and rail operations?        |                                   |  | X  |
| F) Permit historic buildings and archaeological sites to be exposed to vibration-peak-particle velocities greater than 0.2 inches per second due to project construction and highway traffic? |                                   |  | X  |

### Environmental Setting

The following provides a summary of the existing noise and vibration environment at the project site as well as a description of common terms pertinent to the noise discussion of this IS/MND.

#### Noise

Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard by the human ear. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called Hertz (Hz). Discussing sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel (dB) scale was devised. The decibel scale uses the hearing threshold (20 micropascals of pressure), as a point of reference defined as 0 dB. Other sound pressures are compared to the reference pressure and the logarithm is taken to keep the numbers in practical range. The dB scale allows a million-fold increase in pressure to be expressed as 120 dB. To better relate overall sound levels and loudness to human perception, frequency-dependent weighting networks were developed. A strong correlation exists between the way humans perceive sound and A-weighted sound levels. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment for community exposures. All sound levels expressed as dB in this section are A-weighted sound levels, unless noted otherwise.

Community noise is commonly described in terms of the “ambient” noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level ( $L_{eq}$ ), over a given time period (usually one hour). The  $L_{eq}$  is the foundation of the composite noise descriptors, day-night average level ( $L_{dn}$ ) and the community noise equivalent level (CNEL), and shows very good correlation with community response to noise for the average person. The median noise level descriptor, denoted  $L_{50}$ , represents the noise level which is exceeded 50 percent of the hour. In other words, half of the hour ambient conditions are higher than the  $L_{50}$  and the other half are lower than the  $L_{50}$ .

The  $L_{dn}$  is based upon the average noise level over a 24-hour day, with a +10 dB weighting applied to noise occurring during nighttime (10:00 PM to 7:00 AM) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because  $L_{dn}$  represents a 24-hour average,  $L_{dn}$  tends to disguise short-term variation in the noise environment. Where short-term noise sources are an issue, noise impacts may be assessed in terms of maximum noise levels, hourly averages, or other statistical descriptors.

Another common descriptor is the CNEL. The CNEL is similar to the  $L_{dn}$ , except CNEL has an additional weighting factor. Both average noise energy over a 24-hour period. The CNEL applies a +5 dB weighting to events that occur between 7:00 PM and 10:00 PM, in addition to the +10 dB weighting between 10:00 PM and 7:00 AM associated with  $L_{dn}$ .

Currently, the noise environment at the project site is primarily defined by daily school operations and associated site maintenance which typically occur between 7:00 AM and 3:00 PM as well as sports practices and games. In addition, vehicle traffic during student drop-off from 7:00 AM to 8:00 AM and student pick-up at 3:00 PM on Martin Luther King Jr. Boulevard would contribute to the noise environment of the project site, as would students driving to the school and using the on-site parking area.

### Vibration

Vibration is like noise in that vibration involves a source, a transmission path, and a receiver. While vibration is related to noise, vibration differs in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and a frequency. A person’s perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating. Vibration can be measured in terms of acceleration, velocity, or displacement. Vibration magnitude is measured in vibration decibels (VdB) relative to a reference level of 1 micro-inch per second peak particle velocity (ppv), the human threshold of perception. The background vibration level in residential areas is usually 50 VdB or lower. Most perceptible indoor vibration is caused by sources within buildings such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If the roadway is smooth, the vibration from traffic is rarely perceptible.

## Standards of Significance

For purposes of this Initial Study, impacts due to noise may be considered significant if construction and/or implementation of the proposed project would result in the following impacts that remain significant after implementation of General Plan policies:

- Result in exterior noise levels in the project area that are above the upper value of the normally acceptable category for various land uses due to the project's noise level increases;
- Result in residential interior noise levels of 45 dBA  $L_{dn}$  or greater caused by noise level increases due to the project;
- Result in construction noise levels that exceed the standards in the City of Sacramento Noise Ordinance;
- Permit existing and/or planned residential and commercial areas to be exposed to vibration-peak-particle velocities greater than 0.5 inches per second due to project construction;
- Permit adjacent residential and commercial areas to be exposed to vibration peak particle velocities greater than 0.5 inches per second due to highway traffic and rail operations; or
- Permit historic buildings and archaeological sites to be exposed to vibration-peak-particle velocities greater than 0.2 inches per second due to project construction and highway traffic.

## Summary of Analysis under the 2035 General Plan Master EIR and Applicable General Plan Policies

The Master EIR evaluated the potential for development under the 2035 General Plan to increase noise levels in the community. New noise sources include vehicular traffic, aircraft, railways, light rail and stationary sources. The General Plan policies establish exterior (Policy EC 3.1.1) and interior (Policy EC 3.1.3) noise standards. A variety of policies provide standards for the types of development envisioned in the 2035 General Plan. See Policy EC 3.1.8, which requires new mixed-use, commercial and industrial development to mitigate the effects of noise from operations on adjoining sensitive land use, and Policy 3.1.9, which calls for the City to limit hours of operations for parks and active recreation areas to minimize disturbance to nearby residences. Notwithstanding application of the general plan policies, noise impacts for exterior noise levels (Impact 4.8-1) and interior noise levels (Impact 4.8-2), and vibration impacts (Impact 4.8-4) were found to be significant and unavoidable.

## Answers to Checklist Questions

### Questions A and B

The following sections provide information relative to the anticipated noise generated from typical school operations associated with the proposed project and noises associated with sporting events.

#### *School Operational Noise*

Operations associated with school developments typically include noises such as the use of heating, ventilation, and air conditioning (HVAC) units, bells to signal the beginning and end of class periods, on-site maintenance activities, and the use of PA systems. The U.S. Environmental

Protection Agency's (USEPA) published document *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* includes a study on typical noise exposure patterns on school children. According to the USEPA study, students in a class room setting are typically exposed to noise levels of approximately 60 dBA and noise levels as high as 65 dBA during lunch and outdoor play time.<sup>8</sup>

The proposed project would include a modification to an existing SUP to increase the maximum student enrollment from 1,100 to 1,200 students. Current enrollment at the school is 1,137 students and, according to the school, enrollment is not expected to increase beyond 1,160 students for the foreseeable future. Nevertheless, the current school operations would see an increase of enrollment between 23 and 63 students with implementation of the proposed project.

Current surrounding development and sensitive receptors in the project area include single-family to the north and east, single-family residential and commercial to the west across Martin Luther King Jr. Boulevard, and the Williams Memorial Church of God and Oak Ridge Elementary School to the south. Modern building construction typically yields an exterior-to-interior noise level reduction of approximately 25 dBA and the State Building Code, Title 24, Part 2 of the State of California Code of Regulations, mandates that interior noise levels attributable to exterior sources shall not exceed 45 dBA in any habitable room. As such, noise generated from typical school activities at levels as high as 65 dBA would result in maximum interior noise levels at nearby sensitive receptors of approximately 40 dBA, which is below Title 24 Regulations and Sacramento noise standards of 45 dBA. The maximum anticipated increase in student enrollment of 63 students associated with the proposed project would not result in a substantial increase in operational noise. In addition, current school buildings would shield nearby sensitive receptors to the north of the project site from the majority of noise generated during school operations.

The proposed project would include the construction of a new paved parking lot in the southern portion of the project site adjacent to the Williams Memorial Church of God and the Oak Ridge Elementary School. The new parking lot would be an extension of the existing main school parking lot and would include the construction of a barrier between the church parking lot and the proposed new parking lot to control parking access. During school operational hours, the school would control access to the proposed parking area, while the church would have access during church affiliated functions. Activities associated with the new parking lot would be consistent with current operations at the existing parking lot and generally occur at 7:00 AM and 3:00 PM when students would be arriving and departing from the school. A row of trees currently separates the proposed new parking lot from the adjacent elementary school to the south and would continue to provide a buffer from parking lot noise upon project completion. Because operations at the new proposed parking lot would remain largely unchanged from what currently occurs at the project site, the new parking lot would not be expected to result in noise exposure beyond what is already experienced by nearby sensitive receptors.

As further discussed in Section 11, Transportation and Circulation, of this IS/MND, the proposed project would result in a small number of additional average daily trips relative to what is currently associated with operation of the school due to the anticipated increase in student enrollment. An anticipated maximum increase of approximately 63 vehicle trips would not contribute to a substantial increase in the existing sound environment of the school.

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<sup>8</sup> U.S. Environmental Protection Agency. *Information on levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. March 1974.

Furthermore, the proposed project would be consistent with the General Plan land use designation for the site and would not result in a change in land use relative to what currently exists on the site. Thus, potential noise increases resulting from buildout of the project site have been previously analyzed and the proposed project would not be anticipated to result in increased noise levels beyond the levels previously analyzed in the Master EIR. The improvements proposed would be consistent with the existing school uses.

### *Sporting Event Noise*

The proposed project would include renovation of the existing sports complex. Additional site improvements associated with the proposed project would include: new stadium lighting; new scoreboard; construction of bleachers with a 1,300-seat capacity; all-weather track and synthetic turf field; perimeter fencing; a new, covered stadium entryway; conduit pathway for future lighting; landscaping; irrigation; and construction of a new emergency access point. As stated above, the proposed project would include renovations and improvements to an existing sports complex. Sports activities including game events, practices, and other field activities currently regularly occur within the existing sports complex. Typical noise-generating activities associated with the existing and proposed sports complex would include raised voices, and speaker noise from PA systems during sporting events typically produce between 80 to 85 dBA  $L_{eq}$  measured from a distance of approximately 25 feet. Similar to the existing sports complex, the PA speakers would be pointed away from the nearest residential properties located to the east of the sports complex. Based on the propagation rate of 7.5 dB per doubling the distance, the noise level at the closest residence, located approximately 270 feet east of the proposed announcer's box, would be approximately 59 dBA  $L_{eq}$ , which is below the City's exterior noise ordinance standard of 60 dBA.

It should be noted that Chapter 8.68 of the Sacramento City Code sets forth exterior noise standards that require exterior noise be limited to 55 dBA from 7:00 AM to 10:00 PM and to 50 dBA from 10:00 PM to 7:00 AM. However, Section 8.68.080 of the Sacramento City Code states that school bands, school athletic activities and school entertainment events are exempt from the above provisions related to exterior noise standards. The renovation of the existing sports complex would not be expected to result in exterior noise levels in exceedance of applicable City noise level standards given that activities associated with the existing sports complex are currently ongoing and activities associated with the renovated sports complex would remain largely unchanged and be exempt from the above provisions per Section 8.68.080 of the Sacramento City Code.

As such, sports activities including games, practices, and other events currently occur on-site and the proposed project would not alter the type or intensity of noise generated from the sports complex. Thus, the proposed project would not result in exterior noise levels in the project area that are above the upper value of the normally acceptable category for various land uses due to implementation of the proposed project.

In addition, the proposed project would be consistent with the General Plan land use designation for the site and would not result in a change in land use relative to what currently exists on the site. Thus, potential noise increases resulting from buildout of the proposed project have been previously analyzed and the proposed project would not be anticipated to result in increased noise levels beyond the levels previously analyzed in the Master EIR. The improvements proposed would be consistent with the existing school uses. The proposed project would not result in exterior or interior noise levels in the project area above the upper value of the normally acceptable category for the site's land use, the proposed project would, therefore, not result in



interior or exterior noise levels in excess of the City's standards, and a **less-than-significant** impact would occur.

### Question C

Noise impacts resulting from construction depend on the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction lasts over extended periods of time.

Construction activities generate considerable amounts of noise, especially during earth-moving activities when heavy equipment is used. The highest maximum noise levels generated by project construction would typically range from about 76 to 90 dBA at a distance of 50 feet from the noise source. Construction-generated noise levels drop off substantially as the distance between the source and receptor increases. The nearest existing sensitive receptors to the project site would be the single-family residences to the north, east, and west, and the Elementary School to the south. Construction activities in the eastern portion of the project site would be limited to minor site grading and demolition of the existing dugouts for the Jr. Varsity baseball field.

Construction noise would be generated during the period of construction. The City Code regulates noise, and provides that construction noise during specified hours would be exempt from such controls (Title 8 – Health and Safety, Chapter 8.68 of the City Code). Construction operations that occur between 7:00 AM and 6:00 PM, Monday through Saturday and between 9:00 AM and 6:00 PM on Sundays are exempt from the applicable noise standards, provided that pieces of equipment with combustion engines are equipped with suitable exhaust and intake silencers are in good working order. Therefore, the proposed project would not result in a substantial increase in ambient noise levels in the project vicinity due to construction, and a **less-than-significant** impact would occur.

### Questions D through F

For structural damage, the California Department of Transportation (Caltrans) uses a vibration limit of 0.5 inches/second, peak particle velocity (in/sec PPV), for buildings structurally sound and designed to modern engineering standards; 0.2 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern; and a conservative limit of 0.08 in/sec PPV for ancient buildings or buildings that are documented to be structurally weakened.<sup>9</sup> Accordingly, the City uses a threshold of significance for vibration levels of 0.5 in/sec PPV for residential and commercial areas, and 0.2 in/sec PPV for historic buildings and archaeological sites.

The primary vibration-generating activities associated with development of the proposed project would occur during grading, placement of infrastructure, paving, and construction of foundations and structures. Construction activities would be temporary, and construction equipment would operate intermittently throughout the course of a day, would be restricted to daytime hours per the City of Sacramento Municipal Code, and would likely only occur over portions of the project site at a time. Although vibration levels would vary depending on soil conditions, construction

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<sup>9</sup> California Department of Transportation. *Transportation and Construction Vibration Guidance Manual*. September 2013.

methods, and equipment used, Table 5 presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet.

| <b>Table 5<br/>Vibration Source Levels for Construction Equipment</b> |                              |
|---|------------------------------|
| <b>Equipment</b>  | <b>PPV at 25 ft (in/sec)</b> |
| Vibratory Roller  | 0.210                        |
| Large Bulldozer   | 0.089                        |
| Caisson drilling  | 0.089                        |
| Loaded trucks   | 0.076                        |
| Jackhammer  | 0.035                        |
| Small bulldozer   | 0.003                        |

*Source: Caltrans, Transportation and Construction Vibration: Guidance Manual. September 2013.*

As shown in the table, construction equipment anticipated to be used at the project site would not exceed the 0.5 in/sec PPV threshold used by the City for residential and commercial areas. In addition, the nearest existing residences relative to the project site are the single-family residences located approximately 150 to the east of proposed stadium improvements. Given the anticipated on-site vibration intensity and the considerable distances to the nearest off-site buildings, the proposed project would not expose any residential or commercial areas to vibration levels greater than 0.5 in/sec PPV due to project construction.

A vibratory roller is the only piece of construction equipment that could exceed the 0.2 in/sec PPV threshold used for exposure to historic buildings and archaeological sites if used within 25 feet of such a building or site. As discussed in the Cultural Resources section of this IS/MND, historic buildings or archaeological sites are not located in the vicinity of the proposed project site. Thus, the proposed project would not expose any historic buildings or archaeological sites to vibration levels greater than 0.2 in/sec PPV due to project construction.

Based on the above, the proposed project would not expose any residential or commercial areas, or historic buildings or archaeological sites to excessive vibration levels, and the project's impact would be ***less than significant***.

**Mitigation Measures**

None required.

**Findings**

The proposed project would have no additional project-specific environmental effects relating to Noise. Therefore, implementation of the proposed project would have no additional significant environmental effects beyond what was previously analyzed in the Master EIR.

| Issues:   | Effect will be studied in the EIR | Effect can be mitigated to less than significant | No additional significant environmental effect |
|---|-----------------------------------|--|--|
| 9. <u>PUBLIC SERVICES</u><br><br>A) Would the project result in the need for new or altered services related to fire protection, police protection, school facilities, or other governmental services beyond what was anticipated in the 2035 General Plan? |                                   |  | X  |

The Sacramento Fire Department (SFD) provides fire protection services to the entire City and some small areas just outside the City boundaries within the unincorporated County. Four fire stations are located in the vicinity of the project site. The proposed project would be served by SFD Station 6, located approximately 0.6-mile north of the project site, SFD Station 9, located approximately 0.9-mile northeast of the project site, SFD Station 12, located approximately 1.06 miles west of the project site, and Sacramento City Fire Department Station 56, located approximately 1.75 miles south of the project site.

Police protection services for areas within the City are currently provided by the Sacramento Police Department (SPD). The SPD provides law enforcement protection to the project site from the William J. Kinney Police Facility located at 3550 Marysville Boulevard. In addition to the SPD, the Sacramento County Sheriff's Department, the California Highway Patrol, and the Regional Transit Police Department provide police protection within the City of Sacramento.

The project site has operated as a private high school campus since 1957. Current enrollment is 1,126 students and the proposed project would include a modification to an existing SUP to increase the maximum enrollment from 1,100 to 1,200 students. Additionally, the proposed project would include the demolition of an existing parking lot in order to accommodate the renovation of the existing sports complex. The proposed project would include the construction of a new parking lot in the southern portion of the project site to offset the loss of parking spaces resulting from the demolition of the existing parking lot.

**Standards of Significance**

For the purposes of this IS/MND, an impact would be considered significant if the project resulted in the need for new or altered services related to fire protection, police protection, school facilities, roadway maintenance, or other governmental services beyond what was anticipated in the 2035 General Plan.

**Summary of Analysis under the 2035 General Plan Master EIR and Applicable General Plan Policies**

The Master EIR evaluated the potential effects of the 2035 General Plan on various public services. These include police, fire protection, schools, libraries and emergency services (Chapter 4.10).

The General Plan provides that adequate staffing levels for police and fire are important for the long-term health, safety and well-being of the community (Goal PHS 1.1, PHS 2.1). The Master

EIR concluded that effects of development that could occur under the General Plan would be less than significant.

General Plan policies that call for the City to consider impacts of new development on schools (see, for example, Policy ERC 1.1.2 setting forth locational criteria, and Policy ERC 1.1.4 that encourages joint-use development of facilities) reduce impacts on schools to a less-than-significant level. (Impacts 4.10-3, 4) Impacts on library facilities were considered less than significant (Impact 4.10-5).

### **Answers to Checklist Questions**

#### Question A

The Master EIR discusses the potential for impacts to public services as a result of increased development and population in the City of Sacramento. The Master EIR analyzes the 2035 General Plan policies related to law enforcement service, fire protection service, educational service, and library service, to determine if adequate public services will exist as development and population in the City increases. Individual projects developed in the City of Sacramento would be required to comply with the public service policies presented in the 2035 General Plan. According to the Master EIR, implementation of the 2035 General Plan public service policies by individual projects would ensure that adequate public services are available in the City of Sacramento as development and population increases.

The proposed project would be consistent with the 2035 General Plan land use and zoning designations for the site. Given that the renovation of the sports complex associated with the proposed project would not induce population growth in the area, implementation of the proposed project would not be anticipated to result in any impacts to public services.

The following sections provide information relating to the proposed project's potential impacts on public services.

#### *Fire Protection*

The proposed project would include the renovation of a sports stadium and field at an existing private high school campus. The renovation would include new stadium lighting, scoreboard, bleachers with a seating capacity of approximately 1,300 seats, all-weather track, synthetic turf field, perimeter fencing, a conduit pathway for future lighting at practice fields, landscaping and irrigation, and a new parking lot.

Given that the proposed project includes renovation of an existing high school campus and does not propose new development that would change the land use of the parcel, result in a substantial increase in population to the area, or significantly change the operations of the school, the proposed project would not result in an increased need for fire protection. Additionally, the proposed project would include increased emergency vehicle access to the site through the construction of an additional point of access to the site from 40<sup>th</sup> Street in the northeast portion of the site. Therefore, impacts to fire service from the proposed project have already been anticipated by the 2035 General Plan and analyzed in the Master EIR. Furthermore, the proposed project would be required to comply with all applicable regulations related to the provision of fire protection features. Given that the project site is located in an urban area and the City has previously anticipated provision of fire protection services to the site, the SFD would be capable of providing fire protection services to the project site with existing facilities.

### *Police Protection*

Given that the project site is located within an urban area and the proposed project includes renovation of a portion of a built-out site that would be consistent with site's current General Plan land use designation, the associated demand for police protection services has been analyzed in the Master EIR and anticipated by the City. In addition, the proposed project would not modify current site operations such that an increase in demand for police protection services would occur. Thus, the Sacramento Police Department would be capable of providing police protection services to the project site with existing facilities.

### *Schools and Other Government Services*

The proposed project would include renovation of the sports complex at an existing private high school campus in addition to the demolition of an on-site parking lot to be replaced by a new parking lot that will be constructed in the southern portion of the project site. The proposed project includes a modification to an existing SUP to increase the maximum enrollment allowable at the existing school to 1,200 students. The renovation of the existing sports complex and modification to the SUP would better serve the existing demand for education within the area and would not increase the demand for other school or government facilities in the project area. Thus, the proposed project would not result in additional demand for school services or other government services beyond what has been previously anticipated for the site in the Master EIR.

### *Conclusion*

Based on the above, impacts related to fire protection, police protection, school facilities, or other governmental services would not occur beyond what was anticipated in the 2035 General Plan. Therefore, a ***less-than-significant*** impact would occur.

### **Mitigation Measures**

None required.

### **Findings**

The proposed project would have no additional project-specific environmental effects relating to Public Services. Therefore, implementation of the proposed project would have no additional significant environmental effects beyond what was previously analyzed in the Master EIR.

| Issues:   | Effect will be studied in the EIR | Effect can be mitigated to less than significant | No additional significant environmental effect |
|---|-----------------------------------|--|--|
| 10. <u>RECREATION</u><br>Would the project:   |                                   |  | X  |
| A) Cause or accelerate substantial physical deterioration of existing area parks or recreational facilities?                    |                                   |  | X  |
| B) Create a need for construction or expansion of recreational facilities beyond what was anticipated in the 2035 General Plan? |                                   |  | X  |

### Environmental Setting

The City of Sacramento Department of Youth, Parks, and Community Enrichment (YPCE) maintains all parks and recreational facilities within the City of Sacramento. The YPCE classifies parks according to three distinct types: 1) neighborhood parks; 2) community parks; and, 3) regional parks. Neighborhood parks are typically less than 10 acres in size and are intended to be used primarily by residents within a half-mile radius. Community Parks are generally 10 to 60 acres and serve an area of approximately two to three miles, encompassing several neighborhoods and meeting the requirements of a large portion of the City. Regional parks are larger in size and are developed with a wide range of improvements not usually found in local neighborhood and community parks. As noted in the City's General Plan Background Report, the City currently contains 226 developed and undeveloped park sites, 88 miles of off-street bikeways and trails, 21 lakes/ponds or beaches, over 20 aquatic facilities, and extensive recreation facilities in the City parks. The 226 parks comprise 3,200 acres. Of these, 1,573 acres are neighborhood and community parks and the remaining are city and non-city regional parks. The City currently provides approximately 3.4 acres of neighborhood and community park per 1,000 persons citywide.

Residential and non-residential projects that are built in the City of Sacramento are required to pay a park development impact fee per Chapter 18.44 of the Sacramento City Code. The fees collected pursuant to Chapter 18.44 are primarily used to finance the construction of neighborhood and community park facilities. The nearest park to the project site is Temple Avenue Park, located approximately 0.54-mile northwest of the project site.

### Standards of Significance

For purposes of this Initial Study Checklist, impacts to recreational resources are considered significant if the proposed project would do either of the following:

- Cause or accelerate substantial physical deterioration of existing area parks or recreational facilities; or
- Create a need for construction or expansion of recreational facilities beyond what was anticipated in the 2035 General Plan.



## Summary of Analysis under the 2035 General Plan Master EIR and Applicable General Plan Policies

Chapter 4.9 of the Master EIR considered the effects of the 2035 General Plan on the City's existing parkland, urban forest, recreational facilities and recreational services. The General Plan identified a goal of providing an integrated park and recreation system in the City (Goal ERC 2.1). New residential development will be required to dedicate land, pay in-lieu fees or otherwise contribute a fair share to the acquisition and development of parks and recreation facilities (Policy ERC 2.2.5). Impacts were considered less than significant after application of the applicable policies (Impacts 4.9-1 and 4.9-2).

### Answers to Checklist Questions

#### Questions A and B

The proposed project would not include residential development and, thus, would not increase the population in the area. Thus, use of existing parks or demand for new parks or other recreational facilities would not occur as a result of the proposed project. The project would include the renovation of existing on-site recreational facilities that are not available for public use. The renovation of such facilities would not constitute an impact to or loss of public recreational facilities. Therefore, the proposed project would not accelerate substantial deterioration of existing parks and recreational facilities, nor would the project require the construction or expansion of recreational facilities beyond what was anticipated in the 2035 General Plan. Thus, a ***less-than-significant*** impact would occur.

### Mitigation Measures

None required.

### Findings

The proposed project would have no additional project-specific environmental effects relating to Recreation. Therefore, implementation of the proposed project would have no additional significant environmental effects beyond what was previously analyzed in the Master EIR.

| Issues:  | Effect will be studied in the EIR | Effect can be mitigated to less than significant | No additional significant environmental effect |
|--|-----------------------------------|--|--|
| <b>11. TRANSPORTATION AND CIRCULATION</b>  |                                   |  |  |
| Would the project:   |                                   |  |  |
| A) Roadway segments: degrade peak period level of service (LOS) from A, B, C or D (without the project) to E or F (with project) or the LOS (without project) is E or F, and project generated traffic increases the Volume to Capacity Ratio (V/C ratio) by 0.02 or more.   |                                   |  | X  |
| B) Intersections: degrade peak period level of service from A, B, C or D (without project) to E or F (with project) or the LOS (without project) is E or F, and project generated traffic increases the peak period average vehicle delay by five seconds or more?   |                                   |  | X  |
| C) Freeway facilities: off-ramps with vehicle queues that extend into the ramp's deceleration area or onto the freeway; project traffic increases that cause any ramp's merge/diverge level of service to be worse than the freeway's level of service; project traffic increases that cause the freeway level of service to deteriorate beyond level of service threshold defined in the Caltrans Route Concept Report for the facility; or the expected ramp queue is greater than the storage capacity? |                                   |  | X  |
| D) Transit: adversely affect public transit operations or fail to adequately provide for access to public transit?   |                                   |  | X  |
| E) Bicycle facilities: adversely affect bicycle travel, bicycle paths or fail to adequately provide for access by bicycle?   |                                   |  | X  |
| F) Pedestrian: adversely affect pedestrian travel, pedestrian paths or fail to adequately provide for access by pedestrians?   |                                   |  | X  |

### **Environmental Setting**

The proposed project is located east of Martin Luther King Jr. Boulevard, generally between 17<sup>th</sup> Avenue and 22<sup>nd</sup> Avenue. Primary site access is provided by Martin Luther King Jr. Boulevard by way of three existing driveways. Regional access to the project site is provided by SR 99, access to which is provided by the intersections of Martin Luther King Jr. Boulevard with 12<sup>th</sup> Avenue to the north and Fruitridge Road to the south.

### **Pedestrian and Bicycle Infrastructure**

Currently, pedestrian sidewalks are located along the entire site frontage on Martin Luther King Jr. Boulevard. A crosswalk located just north of the 16<sup>th</sup> Avenue - 19<sup>th</sup> Avenue Alley provides access to the project site. Bicycle lanes and sidewalks are located on both sides of Martin Luther King Jr. Boulevard.

### Transit Infrastructure

Transit service in the project area is provided by Sacramento Regional Transit. Bus routes 67 and 68 operate along Martin Luther King Jr. Boulevard. The nearest light rail stops are the City College Station located approximately 1.07 miles west of the site and the Fruitridge Station located approximately 1.08 miles southwest of the site. The walking distance to the City College Station or the Fruitridge Station from the project site are approximately 1.07 and 1.08 miles, respectively.

### **Standards of Significance**

For purposes of this Initial Study, impacts resulting from changes in transportation or circulation may be considered significant if construction and/or implementation of the proposed project would result in the following impacts that remain significant after implementation of General Plan policies or mitigation from the General Plan MEIR:

### Intersections

- The traffic generated by a project degrades peak period level of service from A, B, C or D (without project) to E or F (with project); or
- The LOS (without project) is E or F, and project generated traffic increases the peak period average vehicle delay by five seconds or more.

### Freeway Facilities

Caltrans considers the following to be significant impacts:

- Off-ramps with vehicle queues that extend into the ramp's deceleration area or onto the freeway;
- Project traffic increases that cause any ramp's merge/diverge level of service to be worse than the freeway's level of service;
- Project traffic increases that cause the freeway level of service to deteriorate beyond level of service threshold defined in the Caltrans Route Concept Report for the facility; or
- The expected ramp queue is greater than the storage capacity.

### Transit

- Adversely affect public transit operations; or
- Fail to adequately provide for access to public transit.

### Bicycle Facilities

- Adversely affect bicycle travel, bicycle paths; or
- Fail to adequately provide for access by bicycle.

### Pedestrian Circulation

- Adversely affect pedestrian travel, pedestrian paths; or
- Fail to adequately provide for access by pedestrians.

## **Summary of Analysis under the 2035 General Plan Master EIR and Applicable General Plan Policies**

Transportation and circulation were discussed in the Master EIR in Chapter 4.12. Various modes of travel were included in the analysis, including vehicular, transit, bicycle, pedestrian and aviation components. The analysis included consideration of roadway capacity and identification of levels of service, and effects of the 2035 General Plan on the public transportation system. Provisions of the 2035 General Plan that provide substantial guidance include Mobility Goal 1.1, calling for a transportation system that is effectively planned, managed, operated and maintained, promotion of multimodal choices (Policy M 1.2.1), identification of level of service standards (Policy M 1.2.2), support for state highway expansion and management consistent with the Sacramento Area Council of Governments Metropolitan Transportation Plan/Sustainable Communities Strategy (SACOG MTP/SCS) (Policy M 1.5.6) and development that encourages walking and biking (Policy LU 4.2.1).

While the General Plan includes numerous policies that direct the development of the City's transportation system, the Master EIR concluded that General Plan development would result in significant and unavoidable effects. See Impacts 4.12-3 (roadway segments in adjacent communities, and Impact 4.12-4 (freeway segments).

### **Answers to Checklist Questions**

#### Questions A through C

The proposed project would include renovations of the existing sports complex at the Christian Brothers private high school campus and the demolition of an existing on-site parking lot in the center of the project site. The demolition of the existing on-site parking lot in the center of the project site and construction of a new parking lot in the southern portion of the project site would retain the same number of paved parking spaces as currently exists on the project site. In addition, the proposed project would include modification to an existing SUP to increase maximum enrollment from 1,100 to 1,200 students. Current enrollment for the high school is 1,137 students. Assuming that all new 63 students are driven to the project site, the proposed increase in maximum enrollment to 1,200 students could result in 47 new vehicle trips during student drop-off in the AM peak hour and 11 new trips during PM peak hour. The peak hour trip generation data for the land use 536 (Private School K-12) is provided in the Trip Generation Manual, 10<sup>th</sup> Edition (Institute of the Transportation Engineers).

The proposed project would include minor circulation changes during the student pick-up and drop-off hours in order to facilitate smoother access and egress from the parking lot. The proposed changes would include dedicating a portion of Martin Luther King Jr. Boulevard in the northwestern portion of the project frontage as a student pick-up and drop-off location where parking would be prohibited during school operational hours. The proposed changes serve only to reduce the time spent by individual vehicles occupying the parking area and would not be anticipated to have any effect on the queuing times for local intersections of freeway facilities.

The applicant will be required to provide improvements at the existing mid-block crosswalk along Martin Luther King Jr. Boulevard to the satisfaction of the Department of Public Works.

Based on the above, the proposed project would not degrade peak period LOS at nearby roadway segments, intersections, and freeway facilities such that a conflict with the City's established minimum LOS policies under Existing Plus Project conditions would occur. Therefore, the

proposed project could have a ***less-than-significant*** impact related to roadway sections, intersections, and freeway facilities.

#### Questions D through F

The proposed project would not involve any operations that would modify or impede any existing or planned transit facilities/routes, bicycle facilities, or pedestrian facilities. Thus, a ***less-than-significant*** impact would occur.

#### **Mitigation Measures**

None required.

#### **Findings**

The proposed project would have no additional project-specific environmental effects relating to Transportation and Circulation. Therefore, implementation of the proposed project would have no additional significant environmental effects beyond what was previously analyzed in the Master EIR.

| Issues:   | Effect will be studied in the EIR | Effect can be mitigated to less than significant | No additional significant environmental effect |
|---|-----------------------------------|--|--|
| <b>12. UTILITIES AND SERVICE SYSTEMS</b><br>Would the project:  |                                   |  | X  |
| A) Result in the determination that adequate capacity is not available to serve the project's demand in addition to existing commitments?   |                                   |  | X  |
| B) Require or result in either the construction of new utilities or the expansion of existing utilities, the construction of which could cause significant environmental impacts? |                                   |  | X  |

### **Environmental Setting**

The project site's existing utilities and service systems are discussed below.

#### Wastewater Service

Wastewater collection and treatment services for the project site is currently provided by the SASD and the SRCSD. Wastewater generated from the project area is collected in the SASD system through a series of sewer pipes and pump stations. Once collected in the SASD system, sewage flows into the SRCSD interceptor system, where the sewage is conveyed to the Sacramento Regional Wastewater Treatment Plant located near Elk Grove. The City's Department of Utilities is responsible for providing and maintain water, sewer collection, storm drainage, and flood control services for residents and businesses within city limits. Buildout capacity of the entire SASD service area was anticipated in the 2018 Sewer System Management Plan (SSMP).<sup>10</sup> As such, SASD has anticipated the need for wastewater services in the project area and requires development impact fees to support buildout demand of their service area (including the project site). SASD's pipelines eventually flow to the SRCSD, where wastewater is treated. The SRCSD would be able to provide sufficient wastewater services and conveyance to serve full buildout of the City, including the project area, per the 2035 Master EIR.

The project site would maintain connections to sanitary sewer lines within the Martin Luther King Jr. Boulevard right-of-way (ROW).

#### Water Supply Service

To meet the City's water demand, the City uses surface water from the Sacramento and American rivers, and groundwater pumped from the North American and South American Subbasins. The City of Sacramento is responsible for providing and maintaining water service for the project site. The City of Sacramento would continue to supply water to the site and the project site would maintain connections to water supply lines within the Martin Luther King Jr. Boulevard ROW. The Urban Water Management Plan analyzes the water supply, water demand, and water shortage contingency planning for the City's service area, which would include the project site. According to the City's Urban Water Management Plan, under all drought conditions, the City possesses

<sup>10</sup> Sacramento Area Sewer District. *Sewer System Management Plan*. June 8, 2018.

sufficient water supply entitlements to meet the demands of the City's customers up to the year 2035.<sup>11</sup>

### Solid Waste Service

The City of Sacramento does not provide commercial solid waste collection services. Rather, commercial garbage, recycling, and yard waste services are provided by a franchised hauler authorized by the Sacramento Solid Waste Authority to collect commercial garbage and commingled recycling within the City. Kiefer Landfill, located at 12701 Kiefer Boulevard in Sloughouse, California, is the primary location for the disposal of waste by the City of Sacramento. Solid waste collected at commercial/industrial uses in the area and at the project site is currently disposed of at the Kiefer Landfill. According to the Master EIR, the landfill is permitted to accept up to 10,815 tons per day and the current peak and average daily disposal is much lower than the permitted amount. The landfill is anticipated to be capable of adequately serving the area until the year 2065.

### **Standards of Significance**

For the purposes of this Initial Study, an impact would be considered significant if the project resulted in the following:

- Result in the determination that adequate capacity is not available to serve the project's demand in addition to existing commitments; or
- Require or result in either the construction of new utilities or the expansion of existing utilities, the construction of which could cause significant environmental impacts.

### **Summary of Analysis under the 2035 General Plan Master EIR and Applicable General Plan Policies**

The Master EIR evaluated the effects of development under the 2035 General Plan on water supply, sewer and storm drainage, solid waste, electricity, natural gas and telecommunications. See Chapter 4.11.

The Master EIR evaluated the impacts of increased demand for water that would occur with development under the 2035 General Plan. Policies in the General Plan would reduce the impact generally to a less-than-significant level (see Impact 4.11-1) but the Master EIR concluded that the potential increase in demand for potable water in excess of the City's existing diversion and treatment capacity, and which could require construction of new water supply facilities, would result in a significant and unavoidable effect (Impact 4.11-2). The potential need for expansion of wastewater treatment facilities was identified as having a less-than-significant effect (Impact 4.11-4). Impacts on solid waste facilities were less than significant (Impact 4.11-5).

### **Answers to Checklist Questions**

#### Questions A and B

The following sections provide information related to the proposed project's demands for water, wastewater, and solid waste services.

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<sup>11</sup> City of Sacramento. *2010 Urban Water Management Plan* [pg. 5-22]. October 2011.



### *Water Supply*

The proposed project would include the renovation of the existing on-site sports complex to include a new synthetic turf main field and six-lane, all-weather running track as well as the demolition of an existing on-site parking area. A new parking lot would be constructed in the southern portion of the project site to mitigate the loss of parking spaces associated with demolition of the existing on-site parking lot. The renovation of the main field to include a synthetic turf main field would be expected to result in a decrease in water consumption relative to the existing sports complex due to decreased irrigation demands relative to the current natural turf main field.

In addition, the proposed project would include a modification to an existing SUP in order to increase the maximum student enrollment from 1,100 to 1,200. Current enrollment at the school is 1,137 students and is not anticipated to exceed 1,160 students for the foreseeable future. The increase in student enrollment would translate to a slight increase in demand for water and wastewater services; however, such an increase would not be considered substantial and adequate capacity currently exists to meet the project site's demands. In addition, the decrease in water demand associated with the renovation of the sports complex with a synthetic turf field would be expected to offset a significant portion of the increased water demand associated with the addition of new students.

The proposed project would include new landscaped areas within the renovated sports complex and new parking lot areas. Landscaped areas would be required to comply with all applicable water efficient landscape requirements set forth in Chapter 15.92 of the Sacramento City Code as well as other local planting and shading ordinances. Compliance with the City's existing regulations related to water efficient landscaping would ensure that any increase in water demand from new landscaping is minimized to the extent feasible. As such, adequate capacity is expected to be available to serve the proposed project's water demands.

### *Wastewater*

The proposed project is consistent with land use and zoning designations for the project site and would not generate an increase in demand from what has already been anticipated in the Master EIR. The anticipated increase in student enrollment would result in a small increase in overall wastewater demand for the site. However, the proposed project is consistent with the land use and zoning designations for the project site and, thus, would not be expected to generate an increase in demand relative to what has been anticipated in the Master EIR and the SSMP. Furthermore, the proposed project may be required to pay SASD development impact fees, which are used to maintain and expand the existing system as development occurs. Considering that the proposed project is anticipated to result in a small increase in wastewater generation at the project site, and buildout of the project area, along with increased demand for wastewater services have been anticipated in the Master EIR and the SSMP, adequate capacity exists to serve the demand from the proposed project.

### *Solid Waste*

As noted previously, solid waste generated by existing on-site uses and surrounding developments is currently transferred to Kiefer Landfill for disposal. The 2035 General Plan Master EIR concluded that adequate capacity at local landfills exists for full buildout of the General Plan. The proposed project is consistent with what is anticipated for the site in the Master EIR. Although the proposed modification to the existing SUP would allow for an increase in maximum

enrollment at the project site, the increase in student enrollment would be relatively small as compared to existing enrollment, and would not substantially increase the amount of solid waste being generated by school operations at the project site. As such, the proposed project would not generate an increase in solid waste from what has been anticipated in the Master EIR and adequate capacity would be expected to be available to serve the proposed project's solid waste disposal needs.

#### *Conclusion*

Based on the above, the proposed project would not result in the determination that adequate capacity is not available to serve the project's demand in addition to existing commitments or require the construction of new facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts. Therefore, the proposed project would result in a ***less-than-significant*** impact.

#### **Mitigation Measures**

None required.

#### **Findings**

The proposed project would not result in any significant environmental effects related to Utilities and Service Systems. Therefore, implementation of the proposed project would have no additional significant environmental effects beyond what was previously analyzed in the Master EIR.

| Issues:  | Effect will be studied in the EIR | Effect can be mitigated to less than significant | No additional significant environmental effect |
|--|-----------------------------------|--|--|
| <p><b>13. TRIBAL CULTURAL RESOURCES</b><br/>Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:</p> <p>A) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?</p> |                                   | X  |  |
| <p>B) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</p>  |                                   | X  |  |

**Environmental Setting**

The City of Sacramento and the surrounding area are known to have been occupied by Native American groups for thousands of years prior to settlement by non-Native peoples. Archaeological materials, including human burials, have been found throughout the City. Human burials outside of formal cemeteries often occur in prehistoric contexts. Areas of high sensitivity for archaeological resources, as identified in the 2035 General Plan Background Report, are located within close proximity to the Sacramento and American rivers and other watercourses.

The 2035 General Plan land use diagram designates a wide swath of land along the American River as Parks, which limits development and impacts on sensitive prehistoric resources. High sensitivity areas may be found in other areas related to the ancient flows of the rivers, with differing meanders than found today; however, all such areas are outside of the immediate project vicinity. Although the project site is not located near the American River, the potential for implementation of the proposed project to disturb previously undiscovered archeological or paleontological resources exists. The 2035 General Plan Background Report also defines moderate sensitivity areas, which are areas such as creeks, other watercourses, and high spots near waterways where the discovery of villages is unlikely, but campsites or special use sites may have existed. Moderate areas are often disturbed by siltation, or development; however, discovery of new archaeological resources is still possible.

**Standards of Significance**

For purposes of this IS/MND, tribal cultural resource impacts may be considered significant if construction and/or implementation of the proposed project would result in a substantial adverse change in the significance of a tribal cultural resource that is:

- Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k); or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

### **Summary of Analysis under the 2035 General Plan Master EIR and Applicable General Plan Policies**

The Master EIR evaluated the potential effects of development under the 2035 General Plan on prehistoric and historic resources. See Chapter 4.4. General Plan policies identified as reducing such effects call for identification of resources on project sites (Policy HCR 2.1.1), implementation of applicable laws and regulations (Policy HCR 2.1.2), early consultation with owners and land developers to minimize effects (Policy HCR 2.1.10) and encouragement of adaptive reuse of historic resources (Policy HCR 2.1.14). Demolition of historic resources is deemed a last resort (Policy HCR 2.1.15). The Master EIR concluded that implementation of the 2035 General Plan would have a significant and unavoidable effect on historic resources and archaeological resources (Impacts 4.4-1, 2).

### **Answers to Checklist Questions**

As discussed in Section 4, Cultural Resources, of this IS/MND, a records search was conducted by staff at the NCIC located at CSUS on February 13, 2019, to research previous sites and surveys within 0.25-mile of the project site. The results of the search indicated that the project site does not contain any prehistoric-period or historic-period resources. In addition, cultural resources study reports on file did not cover any portion of the project site. Outside of the project site, but within a 0.25-mile radius, a single historic-period cultural resource is known to exist and three cultural resources study reports cover a portion of the broader search area.

### Questions A and B

Cultural resources are generally defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe. The City notified all applicable Native American tribes per the requirements of AB 52. Notices of the project were provided to the tribes that have previously provide written request to receive such notice. At the time of the preparation of this initial study, no response has been received.

Based on the results of the CHRIS search and given the ongoing use of the project site as a high school campus, the potential for finding unknown surficial tribal cultural resources during implementation of the proposed project is low. Despite the highly disturbed nature of the site and relatively small area of disturbance that would occur with implementation of the proposed project, unknown resources below the surface could be encountered during grading activities. Therefore, the proposed project could have a potentially significant impact related to damaging or destroying tribal cultural resources. Implementation of Mitigation Measures 13-1 through 13-3 and completion of AB 52 consultation would reduce the impact to a less-than-significant level. Thus, with implementation of Mitigation Measures 13-1 through 13-3, implementation of the proposed

project would have **no additional significant environmental effects** beyond what was previously analyzed in the Master EIR.

### **Mitigation Measures**

Implementation of the following mitigation measures would reduce impacts related to Tribal Cultural Resources to a less-than-significant level.

13-1      **Conduct Cultural Resources Sensitivity and Awareness Training Prior to Ground-Disturbing Activities**

*The City shall require the applicant/contractor to provide a cultural and tribal cultural resources sensitivity and awareness training program for all personnel involved in project construction, including field consultants and construction workers. The training will be developed in coordination with interested culturally affiliated Native American Tribes. The training will be conducted in coordination with qualified cultural resources specialists. The City may invite Native American Representatives from interested culturally affiliated Native American Tribes to participate. The training shall be conducted before any construction activities begins on the project site. The program will include relevant information regarding sensitive tribal cultural resources and archaeological resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations.*

*The worker cultural resources sensitivity and awareness program will also describe appropriate avoidance and minimization measures for resources that have the potential to be located on the project site and will outline what to do and who to contact if any potential Tribal Cultural Resources or archaeological resources or artifacts are encountered.*

*The program will emphasize the requirement for confidentiality and culturally-appropriate treatment of any discovery of significance to Native Americans and will discuss appropriate behaviors and responsive actions, consistent with Native American Tribal values.*

13-2      **In the Event that Tribal Cultural Resources are Discovered During Construction, Implement Procedures to Evaluate Tribal Cultural Resources and Implement Avoidance and Minimization Measures to Avoid Significant Impact.**

*If archaeological resources, or tribal cultural resources, are encountered in the project area during construction, the following performance standards shall be met prior to continuance of construction and associated activities that may result in damage to or destruction of tribal cultural resources:*

- *Each resource will be evaluated for California Register of Historical Resources (CRHR) eligibility through application of established eligibility criteria (California Code of Regulations 15064.636), in consultation with consulting Native American Tribes.*

*If a tribal cultural resource is determined to be eligible for listing on the CRHR, the City will avoid damaging effects to the resource in accordance with California PRC Section 21084.3, if feasible. If the City determines that the project may cause a significant impact to a tribal cultural resource, and measures are not otherwise identified in the consultation process, the following are examples of mitigation capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to the resource. These measures may be considered to avoid or minimize significant adverse impacts and constitute the standard by which an impact conclusion of less-than significant may be reached:*

- i. Avoid and preserve resources in place, including, but not limited to, planning construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.*
- ii. Treat the resource with culturally appropriate dignity taking into account the Tribal cultural values and meaning of the resource, including, but not limited to, the following:*
  - 1. Protect the cultural character and integrity of the resource.*
  - 2. Protect the traditional use of the resource.*
    - 1. Protect the confidentiality of the resource.*
    - 2. Establish permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or using the resources or places.*
  - 3. Rebury the resource in place.*
  - 4. Protect the resource.*

*Avoidance and preservation in place is the preferred manner of mitigating impacts to tribal cultural resources and archaeological resources and will be accomplished, if feasible, by several alternative means, including:*

- Planning construction to avoid tribal cultural resources, archaeological sites and/ or other resources; incorporating sites within parks, green-space or other open space; covering archaeological sites; deeding a site to a permanent conservation easement; or other preservation and protection methods agreeable to consulting parties and regulatory authorities with jurisdiction over the activity.*
- Recommendations for avoidance of Tribal Cultural Resources and Native American archaeological sites will be reviewed by the City representative, interested culturally affiliated Native American Tribes and other appropriate agencies, in light of factors such as costs, logistics, feasibility, design, technology and social, cultural and environmental considerations, and the extent to which avoidance is consistent with project objectives. Avoidance and design alternatives may include realignment within the project area to avoid cultural resources, modification of the design to eliminate or reduce impacts to cultural resources or modification or realignment to avoid highly significant features within a cultural resource.*
- Native American Representatives from interested culturally affiliated Native American Tribes will be allowed to review and comment on these analyses*

*and shall have the opportunity to meet with the City representative and its representatives who have technical expertise to identify and recommend feasible avoidance and design alternatives, so that appropriate and feasible avoidance and design alternatives can be identified.*

- If the discovered resource can be avoided, the construction contractor(s), will install protective fencing outside the site boundary, including a 100 foot buffer area, before construction restarts. The boundary of a Tribal Cultural Resource or a Native American archaeological site will be determined in consultation with interested culturally affiliated Native American Tribes and such Tribes will be invited to monitor the installation of fencing. Use of temporary and permanent forms of protective fencing will be determined in consultation with Native American Representatives from interested culturally affiliated Native American Tribes.*
- The construction contractor(s) will maintain the protective fencing throughout construction to avoid the site during all remaining phases of construction. The area will be demarcated as an “Environmentally Sensitive Area”.*
- Native American Representatives from interested culturally affiliated Native American Tribes and the City representative will also consult to develop measures for long term management of any discovered Tribal Cultural Resources. Consultation will be limited to actions consistent with the jurisdiction of the City and taking into account ownership of the subject property. To the extent that the City has jurisdiction, routine operation and maintenance within Tribal Cultural Resources retaining tribal cultural integrity shall be consistent with the avoidance and minimization standards identified in this mitigation measure.*

*To implement these avoidance and minimization standards, the following procedures shall be followed in the event of the discovery of a tribal cultural resource:*

- If any tribal archaeological resources or Native American materials, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or Native American architectural remains or articulated or disarticulated human remains are discovered on the project site, work shall be suspended within 100 feet of the find (based on the apparent distribution of cultural resources), and the construction contractor shall immediately notify the project’s City representative.*
- The City shall coordinate the investigation of the find with a qualified (meeting the Secretary of the Interior’s Qualification Standards for Archaeology) archaeologist approved by the City and with one or more interested culturally affiliated Native American Tribes that respond to the City’s invitation. As part of the site investigation and resource assessment, the City and the archaeologist shall consult with interested culturally affiliated Native American Tribes to assess the significance of the find, make recommendations for further evaluation and treatment as necessary and provide proper management recommendations should potential impacts to the resources be determined by the City to be significant. A written report detailing the site assessment, coordination activities, and management recommendations shall be provided to the City*



*representative by the qualified archaeologist. These recommendations will be documented in the project record. For any recommendations made by interested culturally affiliated Native American Tribes which are not implemented, a justification for why the recommendation was not followed will be provided in the project record.*

- *The City shall consider management recommendations for tribal cultural resources, including Native American archaeological resources, that are deemed appropriate, including resource avoidance or, where avoidance is infeasible in light of project design or layout or is unnecessary to avoid significant effects, preservation in place or other measures. The contractor shall implement any measures deemed by the City to be necessary and feasible to avoid or minimize significant impacts to the cultural resources. These measures may include inviting an interested culturally affiliated Native American Tribe to monitor ground-disturbing activities whenever work is occurring within 100 feet of the location of a discovered Tribal Cultural Resource or Native American archaeological site.*
- *If an adverse impact to tribal cultural resources, including Native American archaeological resources, occurs then consultation with interested culturally affiliated Tribes regarding mitigation contained in the Public Resources Code sections 21084.3(a) and (b) and CEQA Guidelines section 15370 shall occur, in order to identify mitigation for the impact.*

13-3

***Implement Procedures in the Event of the Inadvertent Discovery of Native American Human Remains.***

*If an inadvertent discovery of Native American human remains is made at any time during project-related construction activities or project planning, the City will implement the procedures listed above in Mitigation Measure 2. The following performance standards shall be met prior to implementing or continuing actions such as construction, that may result in damage to or destruction of human remains: In accordance with the California Health and Safety Code, if human remains are encountered during ground-disturbing activities, the City shall immediately halt potentially damaging excavation in the area of the burial and notify the Sacramento County Coroner and a professional archaeologist to determine the nature of the remains. The Coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (California Health and Safety Code Section 7050.5[b]). If the Coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (California Health and Safety Code Section 7050[c]). After the Coroner's findings have been made, the archaeologist and the NAHC-designated Most Likely Descendant (MLD), in consultation with the landowner, shall determine the ultimate treatment and disposition of the remains. The responsibilities of the City for acting upon notification of a discovery of Native American human remains are identified in California PRC Section 5097.9 et seq.*

*If the human remains are of historic age and are determined to be not of Native American origin, the City will follow the provisions of the California Health and Safety Code Section 7000 (et seq.) regarding the disinterment and removal of non-Native American human remains.*

## Findings

All additional significant environmental effects of the proposed project relating to Tribal Cultural Resources can be mitigated to a less-than-significant level. Therefore, implementation of the proposed project would result in ***no additional significant environmental effects***.

| Issues:   | Effect will be studied in the EIR | Effect can be mitigated to less than significant | No additional significant environmental effect |
|---|-----------------------------------|--|--|
| <b>14. MANDATORY FINDINGS OF SIGNIFICANCE</b>   |                                   |  |  |
| A.) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? |                                   |  | X  |
| B.) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)   |                                   |  | X  |
| C.) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?  |                                   |  | X  |

**Answers to Checklist Questions**

Question A

The proposed project would include removal of approximately five on-site trees which could provide potential habitat to special-status wildlife species. In addition, previously unknown tribal cultural resources could be unearthed during grading activities associated with the proposed project. The proposed project would implement and comply with applicable Sacramento 2035 General Plan policies, as discussed throughout this IS/MND. In addition, this IS/MND includes mitigation measures to ensure that impacts related to implementation of the proposed project would be reduced to less-than-significant levels. With implementation of the mitigation measures required by this IS/MND and compliance with City of Sacramento 2035 General Plan policies, development of the proposed project would not: 1) degrade the quality of the environment; 2) substantially reduce or impact the habitat of fish or wildlife species; 3) cause fish or wildlife populations to drop below self-sustaining levels; 4) threaten to eliminate a plant or animal community; 5) reduce the number or restrict the range of a rare or endangered plant or animal; or 6) eliminate important examples of the major periods of California history or prehistory. Therefore, the proposed project's impact would be ***less than significant***.

Question B

The proposed project is consistent with the project site's current 2035 General Plan land use designation; thus, buildout of the project site was anticipated by the City per the 2035 General

Plan and was included in the cumulative analysis of City buildout in the Master EIR. The proposed project would include renovation of an existing high school sports complex and a minor increase in maximum student enrollment. The proposed renovations and increase in student enrollment would not result in any cumulatively considerable impacts. Therefore, implementation of the proposed project would not contribute to cumulative impacts in the City of Sacramento and a ***less-than-significant*** impact would occur.

Question C

The proposed project would be required to implement applicable policies of the 2035 General Plan, to reduce any potential direct or indirect impacts that could occur to human beings or various resources. As demonstrated in this IS/MND, the proposed project would not cause substantial adverse effects on human beings, either directly or indirectly. Therefore, the proposed project's impact would be ***less than significant***.

**SECTION IV - ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED**

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The environmental factors checked below would potentially be affected by the proposed project.

|   |                             |  |                               |
|---|-----------------------------|--|-------------------------------|
|   | Aesthetics                  |  | Hazards                       |
|   | Air Quality                 |  | Noise                         |
| X | Biological Resources        |  | Public Services               |
|   | Cultural Resources          |  | Recreation                    |
|   | Geology and Soils           |  | Transportation/Circulation    |
|   | Hydrology and Water Quality |  | Utilities and Service Systems |
| X | Tribal Cultural Resources   |  |                               |

**SECTION V - DETERMINATION**

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**On the basis of the initial study:**

I find that (a) the proposed project is an anticipated subsequent project identified and described in the 2035 General Plan Master EIR; (b) the proposed project is consistent with the 2035 General Plan land use designation and the permissible densities and intensities of use for the project site; (c) that the discussions of cumulative impacts, growth inducing impacts, and irreversible significant effects in the Master EIR are adequate for the proposed project; and (d) the proposed project will have additional significant environmental effects not previously examined in the Master EIR. A Mitigated Negative Declaration will be prepared. Mitigation measures from the Master EIR will be applied to the proposed project as appropriate, and additional feasible mitigation measures and alternatives will be incorporated to revise the proposed project before the negative declaration is circulated for public review, to avoid or mitigate the identified effects to a level of insignificance. (CEQA Guidelines Section 15178(b))

  
Signature

4-9-19  
Date

Scott Johnson, Senior Planner  
Printed Name

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## REFERENCES CITED

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It should be noted that all of the technical reports used for the purposes of the analysis throughout this Initial Study are available upon request at the City of Sacramento Community Development Department located at 300 Richards Boulevard, Third Floor, Sacramento, CA 95811. The following documents are referenced information sources used for the analysis within this Initial Study:

1. California Air Resources Board. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005.
2. California Constitution, Article XI, Section 7. Available at: [http://leginfo.legislature.ca.gov/faces/codes\\_displaySection.xhtml?lawCode=CONS&sectionNum=SEC.%207.&article=XI](http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=CONS&sectionNum=SEC.%207.&article=XI). Accessed February 2017.
3. California Department of Conservation Division of Land Resource Protection Farmland Mapping and Monitoring Program. *Sacramento County Important Farmland Map*. 2016.
4. California Department of Transportation. *California Scenic Highway Mapping System, Sacramento County*. Available at: [http://www.dot.ca.gov/hq/LandArch/16\\_livability/scenic\\_highways/](http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/). Accessed May 2018.
5. California Department of Transportation. *Transportation and Construction Vibration Guidance Manual*. September 2013.
6. City of Sacramento. *Sacramento 2030 General Plan Draft Master EIR*. August 2014.
7. City of Sacramento. *Sacramento 2035 General Plan*. Adopted on March 3, 2015.
8. City of Sacramento. *Wastewater Services and Rates*. Available at: <http://www.cityofsacramento.org/Utilities/Services/Wastewater-Service>. Accessed August 2018.
9. City of Sacramento. *Zoning Code*. Current through August 2018.
10. Department of Conservation, California Geological Survey. *Relative Likelihood for the Presence of Naturally Occurring Asbestos in Eastern Sacramento County, California*. 2006.
11. Fallen Leaf Tree Management. *Tree Inventory*. July 30, 2018.
12. Federal Emergency Management Agency. *Flood Insurance Rate Map Community Panel Number 06067C0190H*. August 16, 2012.
13. Neil O. Anderson and Associates. *Supplemental Geotechnical Investigation Proposal*. July 6, 2012.
14. Sacramento Area Sewer District. *Current Impact Fees*. Available at: <http://www.sacsewer.com/general-information/current-impact-fees>. Accessed August 2018.



15. Sacramento Area Sewer District. *Sewer Ordinance SDI-0072*. Effective May 27, 2016.
16. Sacramento Area Sewer District. *Sewer System Capacity Plan 2010 Update*. November 2011.
17. Sacramento Area Sewer District. *Sewer System Management Plan*. June 8, 2018.
18. Sacramento Metropolitan Air Quality Management District. *Air Quality Pollutants and Standards*. Available at: <http://www.airquality.org/Air-Quality-Health/Air-Quality-Pollutants-and-Standards>. Accessed June 2018.
19. Sacramento Metropolitan Air Quality Management District. *Guide to Air Quality Assessment in Sacramento County*. May 2018. Available at: <http://www.airquality.org/Residents/CEQA-Land-Use-Planning/CEQA-Guidance-Tools>. Accessed August 2018.
20. Sacramento Suburban Water District. *Consumer Confidence Report 2017*. 2017.
21. The California Burrowing Owl Consortium. *Burrowing Owl Survey Protocol and Mitigation Guidelines*. April 1993.
22. U.S. Environmental Protection Agency. *Information on levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. March 1974.

**APPENDIX A**  
**CALEEMOD MODELING RESULTS**

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Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Annual

**Christian Brothers High School Sports Complex Renovation Project**  
**Sacramento Metropolitan AQMD Air District, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses   | Size   | Metric | Lot Acreage | Floor Surface Area | Population |
|-------------|--------|--------|-------------|--------------------|------------|
| City Park   | 14.15  | Acre   | 14.15       | 616,374.00         | 0          |
| Parking Lot | 401.00 | Space  | 3.61        | 160,400.00         | 0          |

**1.2 Other Project Characteristics**

|                                 |                                       |                                 |       |                                  |       |
|---------------------------------|---------------------------------------|---------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>             | Urban                                 | <b>Wind Speed (m/s)</b>         | 3.5   | <b>Precipitation Freq (Days)</b> | 58    |
| <b>Climate Zone</b>             | 6                                     |                                 |       | <b>Operational Year</b>          | 2020  |
| <b>Utility Company</b>          | Sacramento Municipal Utility District |                                 |       |                                  |       |
| <b>CO2 Intensity (lb/MW hr)</b> | 440.33                                | <b>CH4 Intensity (lb/MW hr)</b> | 0.029 | <b>N2O Intensity (lb/MW hr)</b>  | 0.006 |

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - CO2 Intensity Factor calculated with SMUD RPS Calculator

Land Use -

Construction Phase - Applicant provided information

Grading - Applicant Provided Information

Demolition - Based on map measurements

Vehicle Trips - Not modeling operational emissions

| Table Name           | Column Name | Default Value | New Value |
|----------------------|-------------|---------------|-----------|
| tblConstructionPhase | NumDays     | 20.00         | 66.00     |

## Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Annual

|                           |                    |            |            |
|---------------------------|--------------------|------------|------------|
| tblConstructionPhase      | NumDays            | 300.00     | 66.00      |
| tblConstructionPhase      | NumDays            | 30.00      | 20.00      |
| tblConstructionPhase      | NumDays            | 20.00      | 3.00       |
| tblConstructionPhase      | NumDays            | 10.00      | 21.00      |
| tblConstructionPhase      | PhaseEndDate       | 11/10/2020 | 8/14/2019  |
| tblConstructionPhase      | PhaseEndDate       | 9/15/2020  | 10/29/2019 |
| tblConstructionPhase      | PhaseEndDate       | 7/23/2019  | 7/24/2019  |
| tblConstructionPhase      | PhaseEndDate       | 10/13/2020 | 7/29/2020  |
| tblConstructionPhase      | PhaseEndDate       | 6/11/2019  | 6/26/2019  |
| tblConstructionPhase      | PhaseStartDate     | 10/14/2020 | 5/15/2019  |
| tblConstructionPhase      | PhaseStartDate     | 7/24/2019  | 7/30/2019  |
| tblConstructionPhase      | PhaseStartDate     | 6/12/2019  | 6/27/2019  |
| tblConstructionPhase      | PhaseStartDate     | 9/16/2020  | 7/27/2020  |
| tblGrading                | AcresOfGrading     | 50.00      | 3.72       |
| tblGrading                | MaterialExported   | 0.00       | 1,000.00   |
| tblGrading                | MaterialExported   | 0.00       | 1,000.00   |
| tblProjectCharacteristics | CO2IntensityFactor | 590.31     | 440.33     |
| tblVehicleTrips           | CC_TL              | 5.00       | 0.00       |
| tblVehicleTrips           | CC_TL              | 5.00       | 0.00       |
| tblVehicleTrips           | CC_TTP             | 48.00      | 0.00       |
| tblVehicleTrips           | CNW_TL             | 6.50       | 0.00       |
| tblVehicleTrips           | CNW_TL             | 6.50       | 0.00       |
| tblVehicleTrips           | CNW_TTP            | 19.00      | 0.00       |
| tblVehicleTrips           | CW_TL              | 10.00      | 0.00       |
| tblVehicleTrips           | CW_TL              | 10.00      | 0.00       |
| tblVehicleTrips           | CW_TTP             | 33.00      | 0.00       |
| tblVehicleTrips           | DV_TP              | 28.00      | 0.00       |

## Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Annual

|                 |       |       |      |
|-----------------|-------|-------|------|
| tblVehicleTrips | PB_TP | 6.00  | 0.00 |
| tblVehicleTrips | PR_TP | 66.00 | 0.00 |
| tblVehicleTrips | ST_TR | 22.75 | 0.00 |
| tblVehicleTrips | SU_TR | 16.74 | 0.00 |
| tblVehicleTrips | WD_TR | 1.89  | 0.00 |

## 2.0 Emissions Summary

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Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Annual

| Quarter | Start Date | End Date   | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---------|------------|------------|--|--|
| 1       | 5-1-2019   | 7-31-2019  | 1.6920                                       | 1.6920                                     |
| 2       | 8-1-2019   | 10-31-2019 | 1.3590                                       | 1.3590                                     |
| 5       | 5-1-2020   | 7-31-2020  | 0.0200                                       | 0.0200                                     |
|         |            | Highest    | 1.6920                                       | 1.6920                                     |

2.2 Overall Operational

Unmitigated Operational

|              | ROG           | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4           | N2O                | CO2e           |
|--------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|---------------|--------------------|----------------|
| Category     | tons/yr       |                    |                    |               |               |                    |                    |                |                    |                    | MT/yr         |                |                |               |                    |                |
| Area         | 0.0189        | 5.0000e-005        | 5.3300e-003        | 0.0000        |               | 2.0000e-005        | 2.0000e-005        |                | 2.0000e-005        | 2.0000e-005        | 0.0000        | 0.0103         | 0.0103         | 3.0000e-005   | 0.0000             | 0.0110         |
| Energy       | 0.0000        | 0.0000             | 0.0000             | 0.0000        |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 11.2129        | 11.2129        | 7.4000e-004   | 1.5000e-004        | 11.2769        |
| Mobile       | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000         | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000        | 0.0000             | 0.0000         |
| Waste        |               |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.2477        | 0.0000         | 0.2477         | 0.0146        | 0.0000             | 0.6135         |
| Water        |               |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 11.7857        | 11.7857        | 7.8000e-004   | 1.6000e-004        | 11.8530        |
| <b>Total</b> | <b>0.0189</b> | <b>5.0000e-005</b> | <b>5.3300e-003</b> | <b>0.0000</b> | <b>0.0000</b> | <b>2.0000e-005</b> | <b>2.0000e-005</b> | <b>0.0000</b>  | <b>2.0000e-005</b> | <b>2.0000e-005</b> | <b>0.2477</b> | <b>23.0089</b> | <b>23.2565</b> | <b>0.0162</b> | <b>3.1000e-004</b> | <b>23.7544</b> |



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**2.2 Overall Operational**

**Mitigated Operational**

|              | ROG           | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4           | N2O                | CO2e           |
|--------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|----------------|----------------|---------------|--------------------|----------------|
| Category     | tons/yr       |                    |                    |               |               |                    |                    |                |                    |                    | MT/yr         |                |                |               |                    |                |
| Area         | 0.0189        | 5.0000e-005        | 5.3300e-003        | 0.0000        |               | 2.0000e-005        | 2.0000e-005        |                | 2.0000e-005        | 2.0000e-005        | 0.0000        | 0.0103         | 0.0103         | 3.0000e-005   | 0.0000             | 0.0110         |
| Energy       | 0.0000        | 0.0000             | 0.0000             | 0.0000        |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 11.2129        | 11.2129        | 7.4000e-004   | 1.5000e-004        | 11.2769        |
| Mobile       | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000         | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000        | 0.0000             | 0.0000         |
| Waste        |               |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.2477        | 0.0000         | 0.2477         | 0.0146        | 0.0000             | 0.6135         |
| Water        |               |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 11.7857        | 11.7857        | 7.8000e-004   | 1.6000e-004        | 11.8530        |
| <b>Total</b> | <b>0.0189</b> | <b>5.0000e-005</b> | <b>5.3300e-003</b> | <b>0.0000</b> | <b>0.0000</b> | <b>2.0000e-005</b> | <b>2.0000e-005</b> | <b>0.0000</b>  | <b>2.0000e-005</b> | <b>2.0000e-005</b> | <b>0.2477</b> | <b>23.0089</b> | <b>23.2565</b> | <b>0.0162</b> | <b>3.1000e-004</b> | <b>23.7544</b> |

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00          | 0.00         | 0.00       | 0.00           | 0.00          | 0.00        | 0.00     | 0.00     | 0.00      | 0.00 | 0.00 | 0.00 |

**3.0 Construction Detail**

**Construction Phase**

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| Phase Number | Phase Name            | Phase Type            | Start Date | End Date   | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|------------|---------------|----------|-------------------|
| 1            | Demolition            | Demolition            | 5/1/2019   | 5/28/2019  | 5             | 20       |                   |
| 2            | Site Preparation      | Site Preparation      | 5/29/2019  | 6/26/2019  | 5             | 21       |                   |
| 3            | Grading               | Grading               | 6/27/2019  | 7/24/2019  | 5             | 20       |                   |
| 4            | Building Construction | Building Construction | 7/30/2019  | 10/29/2019 | 5             | 66       |                   |
| 5            | Paving                | Paving                | 7/27/2020  | 7/29/2020  | 5             | 3        |                   |
| 6            | Architectural Coating | Architectural Coating | 5/15/2019  | 8/14/2019  | 5             | 66       |                   |

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 3.72**

**Acres of Paving: 3.61**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 9,624 (Architectural Coating – sqft)**

**OffRoad Equipment**

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| Phase Name            | Offroad Equipment Type    | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Architectural Coating | Air Compressors           | 1      | 6.00        | 78          | 0.48        |
| Demolition            | Excavators                | 3      | 8.00        | 158         | 0.38        |
| Demolition            | Concrete/Industrial Saws  | 1      | 8.00        | 81          | 0.73        |
| Grading               | Excavators                | 2      | 8.00        | 158         | 0.38        |
| Building Construction | Cranes                    | 1      | 7.00        | 231         | 0.29        |
| Building Construction | Forklifts                 | 3      | 8.00        | 89          | 0.20        |
| Building Construction | Generator Sets            | 1      | 8.00        | 84          | 0.74        |
| Paving                | Pavers                    | 2      | 8.00        | 130         | 0.42        |
| Paving                | Rollers                   | 2      | 8.00        | 80          | 0.38        |
| Demolition            | Rubber Tired Dozers       | 2      | 8.00        | 247         | 0.40        |
| Grading               | Rubber Tired Dozers       | 1      | 8.00        | 247         | 0.40        |
| Building Construction | Tractors/Loaders/Backhoes | 3      | 7.00        | 97          | 0.37        |
| Grading               | Graders                   | 1      | 8.00        | 187         | 0.41        |
| Grading               | Tractors/Loaders/Backhoes | 2      | 8.00        | 97          | 0.37        |
| Paving                | Paving Equipment          | 2      | 8.00        | 132         | 0.36        |
| Site Preparation      | Tractors/Loaders/Backhoes | 4      | 8.00        | 97          | 0.37        |
| Site Preparation      | Rubber Tired Dozers       | 3      | 8.00        | 247         | 0.40        |
| Grading               | Scrapers                  | 2      | 8.00        | 367         | 0.48        |
| Building Construction | Welders                   | 1      | 8.00        | 46          | 0.45        |

Trips and VMT

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| Phase Name            | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition            | 6                       | 15.00              | 0.00               | 176.00              | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Site Preparation      | 7                       | 18.00              | 0.00               | 125.00              | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Grading               | 8                       | 20.00              | 0.00               | 125.00              | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Building Construction | 9                       | 326.00             | 127.00             | 0.00                | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Paving                | 6                       | 15.00              | 0.00               | 0.00                | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Architectural Coating | 1                       | 65.00              | 0.00               | 0.00                | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

**3.1 Mitigation Measures Construction**

**3.2 Demolition - 2019**

**Unmitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category      | tons/yr       |               |               |                    |               |               |               |                    |               |               | MT/yr         |                |                |                    |               |                |
| Fugitive Dust |               |               |               |                    | 0.0198        | 0.0000        | 0.0198        | 3.0000e-003        | 0.0000        | 3.0000e-003   | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road      | 0.0351        | 0.3578        | 0.2206        | 3.9000e-004        |               | 0.0180        | 0.0180        |                    | 0.0167        | 0.0167        | 0.0000        | 34.6263        | 34.6263        | 9.6300e-003        | 0.0000        | 34.8672        |
| <b>Total</b>  | <b>0.0351</b> | <b>0.3578</b> | <b>0.2206</b> | <b>3.9000e-004</b> | <b>0.0198</b> | <b>0.0180</b> | <b>0.0378</b> | <b>3.0000e-003</b> | <b>0.0167</b> | <b>0.0197</b> | <b>0.0000</b> | <b>34.6263</b> | <b>34.6263</b> | <b>9.6300e-003</b> | <b>0.0000</b> | <b>34.8672</b> |

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**3.2 Demolition - 2019**

**Unmitigated Construction Off-Site**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Hauling      | 7.8000e-004        | 0.0273        | 6.6200e-003   | 7.0000e-005        | 1.4900e-003        | 1.1000e-004        | 1.6000e-003        | 4.1000e-004        | 1.1000e-004        | 5.2000e-004        | 0.0000        | 6.8041        | 6.8041        | 4.0000e-004        | 0.0000        | 6.8142        |
| Vendor       | 0.0000             | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Worker       | 6.1000e-004        | 4.3000e-004   | 4.6000e-003   | 1.0000e-005        | 1.1000e-003        | 1.0000e-005        | 1.1100e-003        | 2.9000e-004        | 1.0000e-005        | 3.0000e-004        | 0.0000        | 1.0071        | 1.0071        | 3.0000e-005        | 0.0000        | 1.0078        |
| <b>Total</b> | <b>1.3900e-003</b> | <b>0.0278</b> | <b>0.0112</b> | <b>8.0000e-005</b> | <b>2.5900e-003</b> | <b>1.2000e-004</b> | <b>2.7100e-003</b> | <b>7.0000e-004</b> | <b>1.2000e-004</b> | <b>8.2000e-004</b> | <b>0.0000</b> | <b>7.8111</b> | <b>7.8111</b> | <b>4.3000e-004</b> | <b>0.0000</b> | <b>7.8220</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category      | tons/yr       |               |               |                    |               |               |               |                    |               |               | MT/yr         |                |                |                    |               |                |
| Fugitive Dust |               |               |               |                    | 0.0198        | 0.0000        | 0.0198        | 3.0000e-003        | 0.0000        | 3.0000e-003   | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Off-Road      | 0.0351        | 0.3578        | 0.2206        | 3.9000e-004        |               | 0.0180        | 0.0180        |                    | 0.0167        | 0.0167        | 0.0000        | 34.6263        | 34.6263        | 9.6300e-003        | 0.0000        | 34.8671        |
| <b>Total</b>  | <b>0.0351</b> | <b>0.3578</b> | <b>0.2206</b> | <b>3.9000e-004</b> | <b>0.0198</b> | <b>0.0180</b> | <b>0.0378</b> | <b>3.0000e-003</b> | <b>0.0167</b> | <b>0.0197</b> | <b>0.0000</b> | <b>34.6263</b> | <b>34.6263</b> | <b>9.6300e-003</b> | <b>0.0000</b> | <b>34.8671</b> |

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**3.2 Demolition - 2019**

**Mitigated Construction Off-Site**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Hauling      | 7.8000e-004        | 0.0273        | 6.6200e-003   | 7.0000e-005        | 1.4900e-003        | 1.1000e-004        | 1.6000e-003        | 4.1000e-004        | 1.1000e-004        | 5.2000e-004        | 0.0000        | 6.8041        | 6.8041        | 4.0000e-004        | 0.0000        | 6.8142        |
| Vendor       | 0.0000             | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Worker       | 6.1000e-004        | 4.3000e-004   | 4.6000e-003   | 1.0000e-005        | 1.1000e-003        | 1.0000e-005        | 1.1100e-003        | 2.9000e-004        | 1.0000e-005        | 3.0000e-004        | 0.0000        | 1.0071        | 1.0071        | 3.0000e-005        | 0.0000        | 1.0078        |
| <b>Total</b> | <b>1.3900e-003</b> | <b>0.0278</b> | <b>0.0112</b> | <b>8.0000e-005</b> | <b>2.5900e-003</b> | <b>1.2000e-004</b> | <b>2.7100e-003</b> | <b>7.0000e-004</b> | <b>1.2000e-004</b> | <b>8.2000e-004</b> | <b>0.0000</b> | <b>7.8111</b> | <b>7.8111</b> | <b>4.3000e-004</b> | <b>0.0000</b> | <b>7.8220</b> |

**3.3 Site Preparation - 2019**

**Unmitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4           | N2O           | CO2e           |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Category      | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |               |               |                |
| Fugitive Dust |               |               |               |                    | 0.1898        | 0.0000        | 0.1898        | 0.1043         | 0.0000        | 0.1043        | 0.0000        | 0.0000         | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Off-Road      | 0.0455        | 0.4785        | 0.2317        | 4.0000e-004        |               | 0.0251        | 0.0251        |                | 0.0231        | 0.0231        | 0.0000        | 35.8771        | 35.8771        | 0.0114        | 0.0000        | 36.1609        |
| <b>Total</b>  | <b>0.0455</b> | <b>0.4785</b> | <b>0.2317</b> | <b>4.0000e-004</b> | <b>0.1898</b> | <b>0.0251</b> | <b>0.2149</b> | <b>0.1043</b>  | <b>0.0231</b> | <b>0.1274</b> | <b>0.0000</b> | <b>35.8771</b> | <b>35.8771</b> | <b>0.0114</b> | <b>0.0000</b> | <b>36.1609</b> |

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**3.3 Site Preparation - 2019**

**Unmitigated Construction Off-Site**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Hauling      | 5.5000e-004        | 0.0194        | 4.7000e-003   | 5.0000e-005        | 1.0500e-003        | 8.0000e-005        | 1.1400e-003        | 2.9000e-004        | 8.0000e-005        | 3.7000e-004        | 0.0000        | 4.8324        | 4.8324        | 2.9000e-004        | 0.0000        | 4.8396        |
| Vendor       | 0.0000             | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Worker       | 7.6000e-004        | 5.4000e-004   | 5.8000e-003   | 1.0000e-005        | 1.3900e-003        | 1.0000e-005        | 1.4000e-003        | 3.7000e-004        | 1.0000e-005        | 3.8000e-004        | 0.0000        | 1.2689        | 1.2689        | 4.0000e-005        | 0.0000        | 1.2699        |
| <b>Total</b> | <b>1.3100e-003</b> | <b>0.0200</b> | <b>0.0105</b> | <b>6.0000e-005</b> | <b>2.4400e-003</b> | <b>9.0000e-005</b> | <b>2.5400e-003</b> | <b>6.6000e-004</b> | <b>9.0000e-005</b> | <b>7.5000e-004</b> | <b>0.0000</b> | <b>6.1013</b> | <b>6.1013</b> | <b>3.3000e-004</b> | <b>0.0000</b> | <b>6.1095</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4           | N2O           | CO2e           |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Category      | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |               |               |                |
| Fugitive Dust |               |               |               |                    | 0.1898        | 0.0000        | 0.1898        | 0.1043         | 0.0000        | 0.1043        | 0.0000        | 0.0000         | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Off-Road      | 0.0455        | 0.4785        | 0.2317        | 4.0000e-004        |               | 0.0251        | 0.0251        |                | 0.0231        | 0.0231        | 0.0000        | 35.8771        | 35.8771        | 0.0114        | 0.0000        | 36.1609        |
| <b>Total</b>  | <b>0.0455</b> | <b>0.4785</b> | <b>0.2317</b> | <b>4.0000e-004</b> | <b>0.1898</b> | <b>0.0251</b> | <b>0.2149</b> | <b>0.1043</b>  | <b>0.0231</b> | <b>0.1274</b> | <b>0.0000</b> | <b>35.8771</b> | <b>35.8771</b> | <b>0.0114</b> | <b>0.0000</b> | <b>36.1609</b> |

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**3.3 Site Preparation - 2019**

**Mitigated Construction Off-Site**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Hauling      | 5.5000e-004        | 0.0194        | 4.7000e-003   | 5.0000e-005        | 1.0500e-003        | 8.0000e-005        | 1.1400e-003        | 2.9000e-004        | 8.0000e-005        | 3.7000e-004        | 0.0000        | 4.8324        | 4.8324        | 2.9000e-004        | 0.0000        | 4.8396        |
| Vendor       | 0.0000             | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Worker       | 7.6000e-004        | 5.4000e-004   | 5.8000e-003   | 1.0000e-005        | 1.3900e-003        | 1.0000e-005        | 1.4000e-003        | 3.7000e-004        | 1.0000e-005        | 3.8000e-004        | 0.0000        | 1.2689        | 1.2689        | 4.0000e-005        | 0.0000        | 1.2699        |
| <b>Total</b> | <b>1.3100e-003</b> | <b>0.0200</b> | <b>0.0105</b> | <b>6.0000e-005</b> | <b>2.4400e-003</b> | <b>9.0000e-005</b> | <b>2.5400e-003</b> | <b>6.6000e-004</b> | <b>9.0000e-005</b> | <b>7.5000e-004</b> | <b>0.0000</b> | <b>6.1013</b> | <b>6.1013</b> | <b>3.3000e-004</b> | <b>0.0000</b> | <b>6.1095</b> |

**3.4 Grading - 2019**

**Unmitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4           | N2O           | CO2e           |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Category      | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |               |               |                |
| Fugitive Dust |               |               |               |                    | 0.0623        | 0.0000        | 0.0623        | 0.0333         | 0.0000        | 0.0333        | 0.0000        | 0.0000         | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Off-Road      | 0.0474        | 0.5452        | 0.3338        | 6.2000e-004        |               | 0.0238        | 0.0238        |                | 0.0219        | 0.0219        | 0.0000        | 55.7013        | 55.7013        | 0.0176        | 0.0000        | 56.1419        |
| <b>Total</b>  | <b>0.0474</b> | <b>0.5452</b> | <b>0.3338</b> | <b>6.2000e-004</b> | <b>0.0623</b> | <b>0.0238</b> | <b>0.0861</b> | <b>0.0333</b>  | <b>0.0219</b> | <b>0.0553</b> | <b>0.0000</b> | <b>55.7013</b> | <b>55.7013</b> | <b>0.0176</b> | <b>0.0000</b> | <b>56.1419</b> |



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**3.4 Grading - 2019**

**Unmitigated Construction Off-Site**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Hauling      | 5.5000e-004        | 0.0194        | 4.7000e-003   | 5.0000e-005        | 1.0500e-003        | 8.0000e-005        | 1.1400e-003        | 2.9000e-004        | 8.0000e-005        | 3.7000e-004        | 0.0000        | 4.8324        | 4.8324        | 2.9000e-004        | 0.0000        | 4.8396        |
| Vendor       | 0.0000             | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Worker       | 8.1000e-004        | 5.7000e-004   | 6.1400e-003   | 1.0000e-005        | 1.4700e-003        | 1.0000e-005        | 1.4800e-003        | 3.9000e-004        | 1.0000e-005        | 4.0000e-004        | 0.0000        | 1.3428        | 1.3428        | 4.0000e-005        | 0.0000        | 1.3438        |
| <b>Total</b> | <b>1.3600e-003</b> | <b>0.0200</b> | <b>0.0108</b> | <b>6.0000e-005</b> | <b>2.5200e-003</b> | <b>9.0000e-005</b> | <b>2.6200e-003</b> | <b>6.8000e-004</b> | <b>9.0000e-005</b> | <b>7.7000e-004</b> | <b>0.0000</b> | <b>6.1752</b> | <b>6.1752</b> | <b>3.3000e-004</b> | <b>0.0000</b> | <b>6.1834</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4           | N2O           | CO2e           |
|---------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Category      | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |               |               |                |
| Fugitive Dust |               |               |               |                    | 0.0623        | 0.0000        | 0.0623        | 0.0333         | 0.0000        | 0.0333        | 0.0000        | 0.0000         | 0.0000         | 0.0000        | 0.0000        | 0.0000         |
| Off-Road      | 0.0474        | 0.5452        | 0.3338        | 6.2000e-004        |               | 0.0238        | 0.0238        |                | 0.0219        | 0.0219        | 0.0000        | 55.7013        | 55.7013        | 0.0176        | 0.0000        | 56.1418        |
| <b>Total</b>  | <b>0.0474</b> | <b>0.5452</b> | <b>0.3338</b> | <b>6.2000e-004</b> | <b>0.0623</b> | <b>0.0238</b> | <b>0.0861</b> | <b>0.0333</b>  | <b>0.0219</b> | <b>0.0553</b> | <b>0.0000</b> | <b>55.7013</b> | <b>55.7013</b> | <b>0.0176</b> | <b>0.0000</b> | <b>56.1418</b> |

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**3.4 Grading - 2019**

**Mitigated Construction Off-Site**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10      | Exhaust PM10       | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |               |               |                    |                    |                    |                    |                    |                    |                    | MT/yr         |               |               |                    |               |               |
| Hauling      | 5.5000e-004        | 0.0194        | 4.7000e-003   | 5.0000e-005        | 1.0500e-003        | 8.0000e-005        | 1.1400e-003        | 2.9000e-004        | 8.0000e-005        | 3.7000e-004        | 0.0000        | 4.8324        | 4.8324        | 2.9000e-004        | 0.0000        | 4.8396        |
| Vendor       | 0.0000             | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Worker       | 8.1000e-004        | 5.7000e-004   | 6.1400e-003   | 1.0000e-005        | 1.4700e-003        | 1.0000e-005        | 1.4800e-003        | 3.9000e-004        | 1.0000e-005        | 4.0000e-004        | 0.0000        | 1.3428        | 1.3428        | 4.0000e-005        | 0.0000        | 1.3438        |
| <b>Total</b> | <b>1.3600e-003</b> | <b>0.0200</b> | <b>0.0108</b> | <b>6.0000e-005</b> | <b>2.5200e-003</b> | <b>9.0000e-005</b> | <b>2.6200e-003</b> | <b>6.8000e-004</b> | <b>9.0000e-005</b> | <b>7.7000e-004</b> | <b>0.0000</b> | <b>6.1752</b> | <b>6.1752</b> | <b>3.3000e-004</b> | <b>0.0000</b> | <b>6.1834</b> |

**3.5 Building Construction - 2019**

**Unmitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4           | N2O           | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |               |               |                |
| Off-Road     | 0.0779        | 0.6956        | 0.5664        | 8.9000e-004        |               | 0.0426        | 0.0426        |                | 0.0400        | 0.0400        | 0.0000        | 77.5844        | 77.5844        | 0.0189        | 0.0000        | 78.0569        |
| <b>Total</b> | <b>0.0779</b> | <b>0.6956</b> | <b>0.5664</b> | <b>8.9000e-004</b> |               | <b>0.0426</b> | <b>0.0426</b> |                | <b>0.0400</b> | <b>0.0400</b> | <b>0.0000</b> | <b>77.5844</b> | <b>77.5844</b> | <b>0.0189</b> | <b>0.0000</b> | <b>78.0569</b> |

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**3.5 Building Construction - 2019**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0201        | 0.5141        | 0.1571        | 1.0400e-003        | 0.0245        | 3.6600e-003        | 0.0282        | 7.0800e-003    | 3.5000e-003        | 0.0106        | 0.0000        | 99.7837         | 99.7837         | 6.2600e-003        | 0.0000        | 99.9401         |
| Worker       | 0.0435        | 0.0306        | 0.3301        | 8.0000e-004        | 0.0790        | 5.8000e-004        | 0.0796        | 0.0210         | 5.4000e-004        | 0.0216        | 0.0000        | 72.2264         | 72.2264         | 2.2500e-003        | 0.0000        | 72.2826         |
| <b>Total</b> | <b>0.0636</b> | <b>0.5447</b> | <b>0.4872</b> | <b>1.8400e-003</b> | <b>0.1035</b> | <b>4.2400e-003</b> | <b>0.1078</b> | <b>0.0281</b>  | <b>4.0400e-003</b> | <b>0.0321</b> | <b>0.0000</b> | <b>172.0101</b> | <b>172.0101</b> | <b>8.5100e-003</b> | <b>0.0000</b> | <b>172.2227</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2      | Total CO2      | CH4           | N2O           | CO2e           |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
| Category     | tons/yr       |               |               |                    |               |               |               |                |               |               | MT/yr         |                |                |               |               |                |
| Off-Road     | 0.0779        | 0.6956        | 0.5664        | 8.9000e-004        |               | 0.0426        | 0.0426        |                | 0.0400        | 0.0400        | 0.0000        | 77.5843        | 77.5843        | 0.0189        | 0.0000        | 78.0568        |
| <b>Total</b> | <b>0.0779</b> | <b>0.6956</b> | <b>0.5664</b> | <b>8.9000e-004</b> |               | <b>0.0426</b> | <b>0.0426</b> |                | <b>0.0400</b> | <b>0.0400</b> | <b>0.0000</b> | <b>77.5843</b> | <b>77.5843</b> | <b>0.0189</b> | <b>0.0000</b> | <b>78.0568</b> |

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**3.5 Building Construction - 2019**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4                | N2O           | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|---------------|-----------------|-----------------|--------------------|---------------|-----------------|
| Category     | tons/yr       |               |               |                    |               |                    |               |                |                    |               | MT/yr         |                 |                 |                    |               |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        | 0.0000        | 0.0000          | 0.0000          | 0.0000             | 0.0000        | 0.0000          |
| Vendor       | 0.0201        | 0.5141        | 0.1571        | 1.0400e-003        | 0.0245        | 3.6600e-003        | 0.0282        | 7.0800e-003    | 3.5000e-003        | 0.0106        | 0.0000        | 99.7837         | 99.7837         | 6.2600e-003        | 0.0000        | 99.9401         |
| Worker       | 0.0435        | 0.0306        | 0.3301        | 8.0000e-004        | 0.0790        | 5.8000e-004        | 0.0796        | 0.0210         | 5.4000e-004        | 0.0216        | 0.0000        | 72.2264         | 72.2264         | 2.2500e-003        | 0.0000        | 72.2826         |
| <b>Total</b> | <b>0.0636</b> | <b>0.5447</b> | <b>0.4872</b> | <b>1.8400e-003</b> | <b>0.1035</b> | <b>4.2400e-003</b> | <b>0.1078</b> | <b>0.0281</b>  | <b>4.0400e-003</b> | <b>0.0321</b> | <b>0.0000</b> | <b>172.0101</b> | <b>172.0101</b> | <b>8.5100e-003</b> | <b>0.0000</b> | <b>172.2227</b> |

**3.6 Paving - 2020**

**Unmitigated Construction On-Site**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Off-Road     | 2.0300e-003        | 0.0211        | 0.0220        | 3.0000e-005        |               | 1.1300e-003        | 1.1300e-003        |                | 1.0400e-003        | 1.0400e-003        | 0.0000        | 3.0042        | 3.0042        | 9.7000e-004        | 0.0000        | 3.0285        |
| Paving       | 4.7300e-003        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| <b>Total</b> | <b>6.7600e-003</b> | <b>0.0211</b> | <b>0.0220</b> | <b>3.0000e-005</b> |               | <b>1.1300e-003</b> | <b>1.1300e-003</b> |                | <b>1.0400e-003</b> | <b>1.0400e-003</b> | <b>0.0000</b> | <b>3.0042</b> | <b>3.0042</b> | <b>9.7000e-004</b> | <b>0.0000</b> | <b>3.0285</b> |

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**3.6 Paving - 2020**

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |               |                    |                    |               |                    | MT/yr         |               |               |               |               |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 8.0000e-005        | 6.0000e-005        | 6.2000e-004        | 0.0000        | 1.7000e-004        | 0.0000        | 1.7000e-004        | 4.0000e-005        | 0.0000        | 5.0000e-005        | 0.0000        | 0.1464        | 0.1464        | 0.0000        | 0.0000        | 0.1465        |
| <b>Total</b> | <b>8.0000e-005</b> | <b>6.0000e-005</b> | <b>6.2000e-004</b> | <b>0.0000</b> | <b>1.7000e-004</b> | <b>0.0000</b> | <b>1.7000e-004</b> | <b>4.0000e-005</b> | <b>0.0000</b> | <b>5.0000e-005</b> | <b>0.0000</b> | <b>0.1464</b> | <b>0.1464</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.1465</b> |

**Mitigated Construction On-Site**

|              | ROG                | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|--------------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category     | tons/yr            |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Off-Road     | 2.0300e-003        | 0.0211        | 0.0220        | 3.0000e-005        |               | 1.1300e-003        | 1.1300e-003        |                | 1.0400e-003        | 1.0400e-003        | 0.0000        | 3.0042        | 3.0042        | 9.7000e-004        | 0.0000        | 3.0285        |
| Paving       | 4.7300e-003        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| <b>Total</b> | <b>6.7600e-003</b> | <b>0.0211</b> | <b>0.0220</b> | <b>3.0000e-005</b> |               | <b>1.1300e-003</b> | <b>1.1300e-003</b> |                | <b>1.0400e-003</b> | <b>1.0400e-003</b> | <b>0.0000</b> | <b>3.0042</b> | <b>3.0042</b> | <b>9.7000e-004</b> | <b>0.0000</b> | <b>3.0285</b> |

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**3.6 Paving - 2020**

**Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO                 | SO2           | Fugitive PM10      | Exhaust PM10  | PM10 Total         | Fugitive PM2.5     | Exhaust PM2.5 | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|--------------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|---------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Category     | tons/yr            |                    |                    |               |                    |               |                    |                    |               |                    | MT/yr         |               |               |               |               |               |
| Hauling      | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Vendor       | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Worker       | 8.0000e-005        | 6.0000e-005        | 6.2000e-004        | 0.0000        | 1.7000e-004        | 0.0000        | 1.7000e-004        | 4.0000e-005        | 0.0000        | 5.0000e-005        | 0.0000        | 0.1464        | 0.1464        | 0.0000        | 0.0000        | 0.1465        |
| <b>Total</b> | <b>8.0000e-005</b> | <b>6.0000e-005</b> | <b>6.2000e-004</b> | <b>0.0000</b> | <b>1.7000e-004</b> | <b>0.0000</b> | <b>1.7000e-004</b> | <b>4.0000e-005</b> | <b>0.0000</b> | <b>5.0000e-005</b> | <b>0.0000</b> | <b>0.1464</b> | <b>0.1464</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.1465</b> |

**3.7 Architectural Coating - 2019**

**Unmitigated Construction On-Site**

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category        | tons/yr       |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Archit. Coating | 0.0223        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road        | 8.7900e-003   | 0.0606        | 0.0608        | 1.0000e-004        |               | 4.2500e-003        | 4.2500e-003        |                | 4.2500e-003        | 4.2500e-003        | 0.0000        | 8.4257        | 8.4257        | 7.1000e-004        | 0.0000        | 8.4435        |
| <b>Total</b>    | <b>0.0311</b> | <b>0.0606</b> | <b>0.0608</b> | <b>1.0000e-004</b> |               | <b>4.2500e-003</b> | <b>4.2500e-003</b> |                | <b>4.2500e-003</b> | <b>4.2500e-003</b> | <b>0.0000</b> | <b>8.4257</b> | <b>8.4257</b> | <b>7.1000e-004</b> | <b>0.0000</b> | <b>8.4435</b> |

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**3.7 Architectural Coating - 2019**

**Unmitigated Construction Off-Site**

|              | ROG                | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr            |                    |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Hauling      | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Vendor       | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Worker       | 8.6700e-003        | 6.0900e-003        | 0.0658        | 1.6000e-004        | 0.0158        | 1.2000e-004        | 0.0159        | 4.1900e-003        | 1.1000e-004        | 4.3000e-003        | 0.0000        | 14.4010        | 14.4010        | 4.5000e-004        | 0.0000        | 14.4122        |
| <b>Total</b> | <b>8.6700e-003</b> | <b>6.0900e-003</b> | <b>0.0658</b> | <b>1.6000e-004</b> | <b>0.0158</b> | <b>1.2000e-004</b> | <b>0.0159</b> | <b>4.1900e-003</b> | <b>1.1000e-004</b> | <b>4.3000e-003</b> | <b>0.0000</b> | <b>14.4010</b> | <b>14.4010</b> | <b>4.5000e-004</b> | <b>0.0000</b> | <b>14.4122</b> |

**Mitigated Construction On-Site**

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|-----------------|---------------|---------------|---------------|--------------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| Category        | tons/yr       |               |               |                    |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Archit. Coating | 0.0223        |               |               |                    |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Off-Road        | 8.7900e-003   | 0.0606        | 0.0608        | 1.0000e-004        |               | 4.2500e-003        | 4.2500e-003        |                | 4.2500e-003        | 4.2500e-003        | 0.0000        | 8.4257        | 8.4257        | 7.1000e-004        | 0.0000        | 8.4435        |
| <b>Total</b>    | <b>0.0311</b> | <b>0.0606</b> | <b>0.0608</b> | <b>1.0000e-004</b> |               | <b>4.2500e-003</b> | <b>4.2500e-003</b> |                | <b>4.2500e-003</b> | <b>4.2500e-003</b> | <b>0.0000</b> | <b>8.4257</b> | <b>8.4257</b> | <b>7.1000e-004</b> | <b>0.0000</b> | <b>8.4435</b> |

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**3.7 Architectural Coating - 2019**

**Mitigated Construction Off-Site**

|              | ROG                | NOx                | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5     | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2      | Total CO2      | CH4                | N2O           | CO2e           |
|--------------|--------------------|--------------------|---------------|--------------------|---------------|--------------------|---------------|--------------------|--------------------|--------------------|---------------|----------------|----------------|--------------------|---------------|----------------|
| Category     | tons/yr            |                    |               |                    |               |                    |               |                    |                    |                    | MT/yr         |                |                |                    |               |                |
| Hauling      | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Vendor       | 0.0000             | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000             | 0.0000             | 0.0000        | 0.0000         | 0.0000         | 0.0000             | 0.0000        | 0.0000         |
| Worker       | 8.6700e-003        | 6.0900e-003        | 0.0658        | 1.6000e-004        | 0.0158        | 1.2000e-004        | 0.0159        | 4.1900e-003        | 1.1000e-004        | 4.3000e-003        | 0.0000        | 14.4010        | 14.4010        | 4.5000e-004        | 0.0000        | 14.4122        |
| <b>Total</b> | <b>8.6700e-003</b> | <b>6.0900e-003</b> | <b>0.0658</b> | <b>1.6000e-004</b> | <b>0.0158</b> | <b>1.2000e-004</b> | <b>0.0159</b> | <b>4.1900e-003</b> | <b>1.1000e-004</b> | <b>4.3000e-003</b> | <b>0.0000</b> | <b>14.4010</b> | <b>14.4010</b> | <b>4.5000e-004</b> | <b>0.0000</b> | <b>14.4122</b> |

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**



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|             | ROG     | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e   |
|-------------|---------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|--------|
| Category    | tons/yr |        |        |        |               |              |            |                |               |             | MT/yr    |           |           |        |        |        |
| Mitigated   | 0.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| Unmitigated | 0.0000  | 0.0000 | 0.0000 | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

4.2 Trip Summary Information

| Land Use    | Average Daily Trip Rate |          |        | Unmitigated | Mitigated  |
|-------------|-------------------------|----------|--------|-------------|------------|
|             | Weekday                 | Saturday | Sunday | Annual VMT  | Annual VMT |
| City Park   | 0.00                    | 0.00     | 0.00   |             |            |
| Parking Lot | 0.00                    | 0.00     | 0.00   |             |            |
| Total       | 0.00                    | 0.00     | 0.00   |             |            |

4.3 Trip Type Information

| Land Use    | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|-------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|             | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| City Park   | 0.00       | 0.00       | 0.00        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot | 0.00       | 0.00       | 0.00        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |

4.4 Fleet Mix

| Land Use    | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| City Park   | 0.551662 | 0.040953 | 0.203778 | 0.123762 | 0.021802 | 0.005583 | 0.018466 | 0.022043 | 0.002076 | 0.002280 | 0.006004 | 0.000618 | 0.000971 |
| Parking Lot | 0.551662 | 0.040953 | 0.203778 | 0.123762 | 0.021802 | 0.005583 | 0.018466 | 0.022043 | 0.002076 | 0.002280 | 0.006004 | 0.000618 | 0.000971 |

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**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

|                         | ROG     | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O         | CO2e    |
|-------------------------|---------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-------------|---------|
| Category                | tons/yr |        |        |        |               |              |            |                |               |             | MT/yr    |           |           |             |             |         |
| Electricity Mitigated   |         |        |        |        |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 11.2129   | 11.2129   | 7.4000e-004 | 1.5000e-004 | 11.2769 |
| Electricity Unmitigated |         |        |        |        |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 11.2129   | 11.2129   | 7.4000e-004 | 1.5000e-004 | 11.2769 |
| NaturalGas Mitigated    | 0.0000  | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000      | 0.0000      | 0.0000  |
| NaturalGas Unmitigated  | 0.0000  | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      | 0.0000   | 0.0000    | 0.0000    | 0.0000      | 0.0000      | 0.0000  |



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**5.3 Energy by Land Use - Electricity**

**Unmitigated**

|              | Electricity Use | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|-----------------|----------------|--------------------|--------------------|----------------|
| Land Use     | kWh/yr          | MT/yr          |                    |                    |                |
| City Park    | 0               | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot  | 56140           | 11.2129        | 7.4000e-004        | 1.5000e-004        | 11.2769        |
| <b>Total</b> |                 | <b>11.2129</b> | <b>7.4000e-004</b> | <b>1.5000e-004</b> | <b>11.2769</b> |

**Mitigated**

|              | Electricity Use | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|-----------------|----------------|--------------------|--------------------|----------------|
| Land Use     | kWh/yr          | MT/yr          |                    |                    |                |
| City Park    | 0               | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| Parking Lot  | 56140           | 11.2129        | 7.4000e-004        | 1.5000e-004        | 11.2769        |
| <b>Total</b> |                 | <b>11.2129</b> | <b>7.4000e-004</b> | <b>1.5000e-004</b> | <b>11.2769</b> |

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

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|             | ROG     | NOx         | CO          | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O    | CO2e   |
|-------------|---------|-------------|-------------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|--------|--------|
| Category    | tons/yr |             |             |        |               |              |             |                |               |             | MT/yr    |           |           |             |        |        |
| Mitigated   | 0.0189  | 5.0000e-005 | 5.3300e-003 | 0.0000 |               | 2.0000e-005  | 2.0000e-005 |                | 2.0000e-005   | 2.0000e-005 | 0.0000   | 0.0103    | 0.0103    | 3.0000e-005 | 0.0000 | 0.0110 |
| Unmitigated | 0.0189  | 5.0000e-005 | 5.3300e-003 | 0.0000 |               | 2.0000e-005  | 2.0000e-005 |                | 2.0000e-005   | 2.0000e-005 | 0.0000   | 0.0103    | 0.0103    | 3.0000e-005 | 0.0000 | 0.0110 |

6.2 Area by SubCategory

Unmitigated

|                       | ROG           | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| SubCategory           | tons/yr       |                    |                    |               |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Architectural Coating | 2.2300e-003   |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Consumer Products     | 0.0162        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Landscaping           | 5.0000e-004   | 5.0000e-005        | 5.3300e-003        | 0.0000        |               | 2.0000e-005        | 2.0000e-005        |                | 2.0000e-005        | 2.0000e-005        | 0.0000        | 0.0103        | 0.0103        | 3.0000e-005        | 0.0000        | 0.0110        |
| <b>Total</b>          | <b>0.0189</b> | <b>5.0000e-005</b> | <b>5.3300e-003</b> | <b>0.0000</b> |               | <b>2.0000e-005</b> | <b>2.0000e-005</b> |                | <b>2.0000e-005</b> | <b>2.0000e-005</b> | <b>0.0000</b> | <b>0.0103</b> | <b>0.0103</b> | <b>3.0000e-005</b> | <b>0.0000</b> | <b>0.0110</b> |

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**6.2 Area by SubCategory**

**Mitigated**

|                       | ROG           | NOx                | CO                 | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2      | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|-----------------------|---------------|--------------------|--------------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|---------------|---------------|---------------|--------------------|---------------|---------------|
| SubCategory           | tons/yr       |                    |                    |               |               |                    |                    |                |                    |                    | MT/yr         |               |               |                    |               |               |
| Architectural Coating | 2.2300e-003   |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Consumer Products     | 0.0162        |                    |                    |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Landscaping           | 5.0000e-004   | 5.0000e-005        | 5.3300e-003        | 0.0000        |               | 2.0000e-005        | 2.0000e-005        |                | 2.0000e-005        | 2.0000e-005        | 0.0000        | 0.0103        | 0.0103        | 3.0000e-005        | 0.0000        | 0.0110        |
| <b>Total</b>          | <b>0.0189</b> | <b>5.0000e-005</b> | <b>5.3300e-003</b> | <b>0.0000</b> |               | <b>2.0000e-005</b> | <b>2.0000e-005</b> |                | <b>2.0000e-005</b> | <b>2.0000e-005</b> | <b>0.0000</b> | <b>0.0103</b> | <b>0.0103</b> | <b>3.0000e-005</b> | <b>0.0000</b> | <b>0.0110</b> |

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

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|             | Total CO2 | CH4         | N2O         | CO2e    |
|-------------|-----------|-------------|-------------|---------|
| Category    | MT/yr     |             |             |         |
| Mitigated   | 11.7857   | 7.8000e-004 | 1.6000e-004 | 11.8530 |
| Unmitigated | 11.7857   | 7.8000e-004 | 1.6000e-004 | 11.8530 |

**7.2 Water by Land Use**

**Unmitigated**

|              | Indoor/Outdoor Use | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|--------------------|----------------|--------------------|--------------------|----------------|
| Land Use     | Mgal               | MT/yr          |                    |                    |                |
| City Park    | 0 / 16.8595        | 11.7857        | 7.8000e-004        | 1.6000e-004        | 11.8530        |
| Parking Lot  | 0 / 0              | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| <b>Total</b> |                    | <b>11.7857</b> | <b>7.8000e-004</b> | <b>1.6000e-004</b> | <b>11.8530</b> |

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**7.2 Water by Land Use**

**Mitigated**

|              | Indoor/Outdoor Use | Total CO2      | CH4                | N2O                | CO2e           |
|--------------|--------------------|----------------|--------------------|--------------------|----------------|
| Land Use     | Mgal               | MT/yr          |                    |                    |                |
| City Park    | 0 / 16.8595        | 11.7857        | 7.8000e-004        | 1.6000e-004        | 11.8530        |
| Parking Lot  | 0 / 0              | 0.0000         | 0.0000             | 0.0000             | 0.0000         |
| <b>Total</b> |                    | <b>11.7857</b> | <b>7.8000e-004</b> | <b>1.6000e-004</b> | <b>11.8530</b> |

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**Category/Year**

|             | Total CO2 | CH4    | N2O    | CO2e   |
|-------------|-----------|--------|--------|--------|
|             | MT/yr     |        |        |        |
| Mitigated   | 0.2477    | 0.0146 | 0.0000 | 0.6135 |
| Unmitigated | 0.2477    | 0.0146 | 0.0000 | 0.6135 |



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**8.2 Waste by Land Use**

**Unmitigated**

|              | Waste Disposed | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|----------------|---------------|---------------|---------------|---------------|
| Land Use     | tons           | MT/yr         |               |               |               |
| City Park    | 1.22           | 0.2477        | 0.0146        | 0.0000        | 0.6135        |
| Parking Lot  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> |                | <b>0.2477</b> | <b>0.0146</b> | <b>0.0000</b> | <b>0.6135</b> |

**Mitigated**

|              | Waste Disposed | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|----------------|---------------|---------------|---------------|---------------|
| Land Use     | tons           | MT/yr         |               |               |               |
| City Park    | 1.22           | 0.2477        | 0.0146        | 0.0000        | 0.6135        |
| Parking Lot  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> |                | <b>0.2477</b> | <b>0.0146</b> | <b>0.0000</b> | <b>0.6135</b> |

**9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

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**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

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Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Summer

**Christian Brothers High School Sports Complex Renovation Project**  
**Sacramento Metropolitan AQMD Air District, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses   | Size   | Metric | Lot Acreage | Floor Surface Area | Population |
|-------------|--------|--------|-------------|--------------------|------------|
| City Park   | 14.15  | Acre   | 14.15       | 616,374.00         | 0          |
| Parking Lot | 401.00 | Space  | 3.61        | 160,400.00         | 0          |

**1.2 Other Project Characteristics**

|                                 |                                       |                                 |       |                                  |       |
|---------------------------------|---------------------------------------|---------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>             | Urban                                 | <b>Wind Speed (m/s)</b>         | 3.5   | <b>Precipitation Freq (Days)</b> | 58    |
| <b>Climate Zone</b>             | 6                                     |                                 |       | <b>Operational Year</b>          | 2020  |
| <b>Utility Company</b>          | Sacramento Municipal Utility District |                                 |       |                                  |       |
| <b>CO2 Intensity (lb/MW hr)</b> | 440.33                                | <b>CH4 Intensity (lb/MW hr)</b> | 0.029 | <b>N2O Intensity (lb/MW hr)</b>  | 0.006 |

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - CO2 Intensity Factor calculated with SMUD RPS Calculator

Land Use -

Construction Phase - Applicant provided information

Grading - Applicant Provided Information

Demolition - Based on map measurements

Vehicle Trips - Not modeling operational emissions

| Table Name           | Column Name | Default Value | New Value |
|----------------------|-------------|---------------|-----------|
| tblConstructionPhase | NumDays     | 20.00         | 66.00     |

## Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Summer

|                           |                    |            |            |
|---------------------------|--------------------|------------|------------|
| tblConstructionPhase      | NumDays            | 300.00     | 66.00      |
| tblConstructionPhase      | NumDays            | 30.00      | 20.00      |
| tblConstructionPhase      | NumDays            | 20.00      | 3.00       |
| tblConstructionPhase      | NumDays            | 10.00      | 21.00      |
| tblConstructionPhase      | PhaseEndDate       | 11/10/2020 | 8/14/2019  |
| tblConstructionPhase      | PhaseEndDate       | 9/15/2020  | 10/29/2019 |
| tblConstructionPhase      | PhaseEndDate       | 7/23/2019  | 7/24/2019  |
| tblConstructionPhase      | PhaseEndDate       | 10/13/2020 | 7/29/2020  |
| tblConstructionPhase      | PhaseEndDate       | 6/11/2019  | 6/26/2019  |
| tblConstructionPhase      | PhaseStartDate     | 10/14/2020 | 5/15/2019  |
| tblConstructionPhase      | PhaseStartDate     | 7/24/2019  | 7/30/2019  |
| tblConstructionPhase      | PhaseStartDate     | 6/12/2019  | 6/27/2019  |
| tblConstructionPhase      | PhaseStartDate     | 9/16/2020  | 7/27/2020  |
| tblGrading                | AcresOfGrading     | 50.00      | 3.72       |
| tblGrading                | MaterialExported   | 0.00       | 1,000.00   |
| tblGrading                | MaterialExported   | 0.00       | 1,000.00   |
| tblProjectCharacteristics | CO2IntensityFactor | 590.31     | 440.33     |
| tblVehicleTrips           | CC_TL              | 5.00       | 0.00       |
| tblVehicleTrips           | CC_TL              | 5.00       | 0.00       |
| tblVehicleTrips           | CC_TTP             | 48.00      | 0.00       |
| tblVehicleTrips           | CNW_TL             | 6.50       | 0.00       |
| tblVehicleTrips           | CNW_TL             | 6.50       | 0.00       |
| tblVehicleTrips           | CNW_TTP            | 19.00      | 0.00       |
| tblVehicleTrips           | CW_TL              | 10.00      | 0.00       |
| tblVehicleTrips           | CW_TL              | 10.00      | 0.00       |
| tblVehicleTrips           | CW_TTP             | 33.00      | 0.00       |
| tblVehicleTrips           | DV_TP              | 28.00      | 0.00       |

## Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Summer

|                 |       |       |      |
|-----------------|-------|-------|------|
| tblVehicleTrips | PB_TP | 6.00  | 0.00 |
| tblVehicleTrips | PR_TP | 66.00 | 0.00 |
| tblVehicleTrips | ST_TR | 22.75 | 0.00 |
| tblVehicleTrips | SU_TR | 16.74 | 0.00 |
| tblVehicleTrips | WD_TR | 1.89  | 0.00 |

## 2.0 Emissions Summary

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Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Summer

**2.2 Overall Operational**

**Unmitigated Operational**

|              | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|---------------|---------------|
| Category     | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |               |               |
| Area         | 0.1048        | 3.9000e-004        | 0.0427        | 0.0000        |               | 1.5000e-004        | 1.5000e-004        |                | 1.5000e-004        | 1.5000e-004        |          | 0.0909        | 0.0909        | 2.4000e-004        |               | 0.0970        |
| Energy       | 0.0000        | 0.0000             | 0.0000        | 0.0000        |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Mobile       | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000         | 0.0000             | 0.0000             |          | 0.0000        | 0.0000        | 0.0000             |               | 0.0000        |
| <b>Total</b> | <b>0.1048</b> | <b>3.9000e-004</b> | <b>0.0427</b> | <b>0.0000</b> | <b>0.0000</b> | <b>1.5000e-004</b> | <b>1.5000e-004</b> | <b>0.0000</b>  | <b>1.5000e-004</b> | <b>1.5000e-004</b> |          | <b>0.0909</b> | <b>0.0909</b> | <b>2.4000e-004</b> | <b>0.0000</b> | <b>0.0970</b> |

**Mitigated Operational**

|              | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|---------------|---------------|
| Category     | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |               |               |
| Area         | 0.1048        | 3.9000e-004        | 0.0427        | 0.0000        |               | 1.5000e-004        | 1.5000e-004        |                | 1.5000e-004        | 1.5000e-004        |          | 0.0909        | 0.0909        | 2.4000e-004        |               | 0.0970        |
| Energy       | 0.0000        | 0.0000             | 0.0000        | 0.0000        |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Mobile       | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000         | 0.0000             | 0.0000             |          | 0.0000        | 0.0000        | 0.0000             |               | 0.0000        |
| <b>Total</b> | <b>0.1048</b> | <b>3.9000e-004</b> | <b>0.0427</b> | <b>0.0000</b> | <b>0.0000</b> | <b>1.5000e-004</b> | <b>1.5000e-004</b> | <b>0.0000</b>  | <b>1.5000e-004</b> | <b>1.5000e-004</b> |          | <b>0.0909</b> | <b>0.0909</b> | <b>2.4000e-004</b> | <b>0.0000</b> | <b>0.0970</b> |

Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Summer

|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00          | 0.00         | 0.00       | 0.00           | 0.00          | 0.00        | 0.00     | 0.00     | 0.00      | 0.00 | 0.00 | 0.00 |

### 3.0 Construction Detail

#### Construction Phase

| Phase Number | Phase Name            | Phase Type            | Start Date | End Date   | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|------------|---------------|----------|-------------------|
| 1            | Demolition            | Demolition            | 5/1/2019   | 5/28/2019  | 5             | 20       |                   |
| 2            | Site Preparation      | Site Preparation      | 5/29/2019  | 6/26/2019  | 5             | 21       |                   |
| 3            | Grading               | Grading               | 6/27/2019  | 7/24/2019  | 5             | 20       |                   |
| 4            | Building Construction | Building Construction | 7/30/2019  | 10/29/2019 | 5             | 66       |                   |
| 5            | Paving                | Paving                | 7/27/2020  | 7/29/2020  | 5             | 3        |                   |
| 6            | Architectural Coating | Architectural Coating | 5/15/2019  | 8/14/2019  | 5             | 66       |                   |

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.72

Acres of Paving: 3.61

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 9,624 (Architectural Coating – sqft)

#### OffRoad Equipment



## Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Summer

| Phase Name            | Offroad Equipment Type    | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Architectural Coating | Air Compressors           | 1      | 6.00        | 78          | 0.48        |
| Demolition            | Excavators                | 3      | 8.00        | 158         | 0.38        |
| Demolition            | Concrete/Industrial Saws  | 1      | 8.00        | 81          | 0.73        |
| Grading               | Excavators                | 2      | 8.00        | 158         | 0.38        |
| Building Construction | Cranes                    | 1      | 7.00        | 231         | 0.29        |
| Building Construction | Forklifts                 | 3      | 8.00        | 89          | 0.20        |
| Building Construction | Generator Sets            | 1      | 8.00        | 84          | 0.74        |
| Paving                | Pavers                    | 2      | 8.00        | 130         | 0.42        |
| Paving                | Rollers                   | 2      | 8.00        | 80          | 0.38        |
| Demolition            | Rubber Tired Dozers       | 2      | 8.00        | 247         | 0.40        |
| Grading               | Rubber Tired Dozers       | 1      | 8.00        | 247         | 0.40        |
| Building Construction | Tractors/Loaders/Backhoes | 3      | 7.00        | 97          | 0.37        |
| Grading               | Graders                   | 1      | 8.00        | 187         | 0.41        |
| Grading               | Tractors/Loaders/Backhoes | 2      | 8.00        | 97          | 0.37        |
| Paving                | Paving Equipment          | 2      | 8.00        | 132         | 0.36        |
| Site Preparation      | Tractors/Loaders/Backhoes | 4      | 8.00        | 97          | 0.37        |
| Site Preparation      | Rubber Tired Dozers       | 3      | 8.00        | 247         | 0.40        |
| Grading               | Scrapers                  | 2      | 8.00        | 367         | 0.48        |
| Building Construction | Welders                   | 1      | 8.00        | 46          | 0.45        |

Trips and VMT

Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Summer

| Phase Name            | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition            | 6                       | 15.00              | 0.00               | 176.00              | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Site Preparation      | 7                       | 18.00              | 0.00               | 125.00              | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Grading               | 8                       | 20.00              | 0.00               | 125.00              | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Building Construction | 9                       | 326.00             | 127.00             | 0.00                | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Paving                | 6                       | 15.00              | 0.00               | 0.00                | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Architectural Coating | 1                       | 65.00              | 0.00               | 0.00                | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

**3.1 Mitigation Measures Construction**

**3.2 Demolition - 2019**

**Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 1.9800        | 0.0000        | 1.9800        | 0.2998         | 0.0000        | 0.2998        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 3.5134        | 35.7830        | 22.0600        | 0.0388        |               | 1.7949        | 1.7949        |                | 1.6697        | 1.6697        |          | 3,816.8994        | 3,816.8994        | 1.0618        |     | 3,843.4451        |
| <b>Total</b>  | <b>3.5134</b> | <b>35.7830</b> | <b>22.0600</b> | <b>0.0388</b> | <b>1.9800</b> | <b>1.7949</b> | <b>3.7749</b> | <b>0.2998</b>  | <b>1.6697</b> | <b>1.9695</b> |          | <b>3,816.8994</b> | <b>3,816.8994</b> | <b>1.0618</b> |     | <b>3,843.4451</b> |

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**3.2 Demolition - 2019**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Hauling      | 0.0767        | 2.6370        | 0.6493        | 7.0500e-003        | 0.1531        | 0.0113        | 0.1645        | 0.0419         | 0.0109        | 0.0528        |          | 754.7821        | 754.7821        | 0.0438        |     | 755.8768        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Worker       | 0.0703        | 0.0386        | 0.5416        | 1.2300e-003        | 0.1141        | 8.1000e-004   | 0.1149        | 0.0303         | 7.5000e-004   | 0.0310        |          | 122.7963        | 122.7963        | 3.8600e-003   |     | 122.8929        |
| <b>Total</b> | <b>0.1470</b> | <b>2.6756</b> | <b>1.1908</b> | <b>8.2800e-003</b> | <b>0.2672</b> | <b>0.0122</b> | <b>0.2794</b> | <b>0.0722</b>  | <b>0.0116</b> | <b>0.0838</b> |          | <b>877.5783</b> | <b>877.5783</b> | <b>0.0477</b> |     | <b>878.7697</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 1.9800        | 0.0000        | 1.9800        | 0.2998         | 0.0000        | 0.2998        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 3.5134        | 35.7830        | 22.0600        | 0.0388        |               | 1.7949        | 1.7949        |                | 1.6697        | 1.6697        | 0.0000        | 3,816.8994        | 3,816.8994        | 1.0618        |     | 3,843.4451        |
| <b>Total</b>  | <b>3.5134</b> | <b>35.7830</b> | <b>22.0600</b> | <b>0.0388</b> | <b>1.9800</b> | <b>1.7949</b> | <b>3.7749</b> | <b>0.2998</b>  | <b>1.6697</b> | <b>1.9695</b> | <b>0.0000</b> | <b>3,816.8994</b> | <b>3,816.8994</b> | <b>1.0618</b> |     | <b>3,843.4451</b> |

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**3.2 Demolition - 2019**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Hauling      | 0.0767        | 2.6370        | 0.6493        | 7.0500e-003        | 0.1531        | 0.0113        | 0.1645        | 0.0419         | 0.0109        | 0.0528        |          | 754.7821        | 754.7821        | 0.0438        |     | 755.8768        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Worker       | 0.0703        | 0.0386        | 0.5416        | 1.2300e-003        | 0.1141        | 8.1000e-004   | 0.1149        | 0.0303         | 7.5000e-004   | 0.0310        |          | 122.7963        | 122.7963        | 3.8600e-003   |     | 122.8929        |
| <b>Total</b> | <b>0.1470</b> | <b>2.6756</b> | <b>1.1908</b> | <b>8.2800e-003</b> | <b>0.2672</b> | <b>0.0122</b> | <b>0.2794</b> | <b>0.0722</b>  | <b>0.0116</b> | <b>0.0838</b> |          | <b>877.5783</b> | <b>877.5783</b> | <b>0.0477</b> |     | <b>878.7697</b> |

**3.3 Site Preparation - 2019**

**Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10  | Exhaust PM10  | PM10 Total     | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total    | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|----------------|---------------|----------------|----------------|---------------|----------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |                |               |                |                |               |                | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 18.0761        | 0.0000        | 18.0761        | 9.9322         | 0.0000        | 9.9322         |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 4.3350        | 45.5727        | 22.0630        | 0.0380        |                | 2.3904        | 2.3904         |                | 2.1991        | 2.1991         |          | 3,766.4529        | 3,766.4529        | 1.1917        |     | 3,796.2445        |
| <b>Total</b>  | <b>4.3350</b> | <b>45.5727</b> | <b>22.0630</b> | <b>0.0380</b> | <b>18.0761</b> | <b>2.3904</b> | <b>20.4665</b> | <b>9.9322</b>  | <b>2.1991</b> | <b>12.1313</b> |          | <b>3,766.4529</b> | <b>3,766.4529</b> | <b>1.1917</b> |     | <b>3,796.2445</b> |

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**3.3 Site Preparation - 2019**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |     |                 |
| Hauling      | 0.0519        | 1.7837        | 0.4392        | 4.7700e-003        | 0.1036        | 7.6700e-003        | 0.1113        | 0.0284         | 7.3400e-003        | 0.0357        |          | 510.5398        | 510.5398        | 0.0296        |     | 511.2803        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Worker       | 0.0843        | 0.0463        | 0.6499        | 1.4800e-003        | 0.1369        | 9.8000e-004        | 0.1379        | 0.0363         | 9.0000e-004        | 0.0372        |          | 147.3555        | 147.3555        | 4.6400e-003   |     | 147.4714        |
| <b>Total</b> | <b>0.1362</b> | <b>1.8300</b> | <b>1.0891</b> | <b>6.2500e-003</b> | <b>0.2405</b> | <b>8.6500e-003</b> | <b>0.2492</b> | <b>0.0647</b>  | <b>8.2400e-003</b> | <b>0.0729</b> |          | <b>657.8953</b> | <b>657.8953</b> | <b>0.0343</b> |     | <b>658.7517</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10  | Exhaust PM10  | PM10 Total     | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total    | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|----------------|---------------|----------------|----------------|---------------|----------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |                |               |                |                |               |                | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 18.0761        | 0.0000        | 18.0761        | 9.9322         | 0.0000        | 9.9322         |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 4.3350        | 45.5727        | 22.0630        | 0.0380        |                | 2.3904        | 2.3904         |                | 2.1991        | 2.1991         | 0.0000        | 3,766.4529        | 3,766.4529        | 1.1917        |     | 3,796.2445        |
| <b>Total</b>  | <b>4.3350</b> | <b>45.5727</b> | <b>22.0630</b> | <b>0.0380</b> | <b>18.0761</b> | <b>2.3904</b> | <b>20.4665</b> | <b>9.9322</b>  | <b>2.1991</b> | <b>12.1313</b> | <b>0.0000</b> | <b>3,766.4529</b> | <b>3,766.4529</b> | <b>1.1917</b> |     | <b>3,796.2445</b> |

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**3.3 Site Preparation - 2019**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |     |                 |
| Hauling      | 0.0519        | 1.7837        | 0.4392        | 4.7700e-003        | 0.1036        | 7.6700e-003        | 0.1113        | 0.0284         | 7.3400e-003        | 0.0357        |          | 510.5398        | 510.5398        | 0.0296        |     | 511.2803        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Worker       | 0.0843        | 0.0463        | 0.6499        | 1.4800e-003        | 0.1369        | 9.8000e-004        | 0.1379        | 0.0363         | 9.0000e-004        | 0.0372        |          | 147.3555        | 147.3555        | 4.6400e-003   |     | 147.4714        |
| <b>Total</b> | <b>0.1362</b> | <b>1.8300</b> | <b>1.0891</b> | <b>6.2500e-003</b> | <b>0.2405</b> | <b>8.6500e-003</b> | <b>0.2492</b> | <b>0.0647</b>  | <b>8.2400e-003</b> | <b>0.0729</b> |          | <b>657.8953</b> | <b>657.8953</b> | <b>0.0343</b> |     | <b>658.7517</b> |

**3.4 Grading - 2019**

**Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 6.2297        | 0.0000        | 6.2297        | 3.3331         | 0.0000        | 3.3331        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 4.7389        | 54.5202        | 33.3768        | 0.0620        |               | 2.3827        | 2.3827        |                | 2.1920        | 2.1920        |          | 6,140.0195        | 6,140.0195        | 1.9426        |     | 6,188.5854        |
| <b>Total</b>  | <b>4.7389</b> | <b>54.5202</b> | <b>33.3768</b> | <b>0.0620</b> | <b>6.2297</b> | <b>2.3827</b> | <b>8.6123</b> | <b>3.3331</b>  | <b>2.1920</b> | <b>5.5251</b> |          | <b>6,140.0195</b> | <b>6,140.0195</b> | <b>1.9426</b> |     | <b>6,188.5854</b> |

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**3.4 Grading - 2019**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |     |                 |
| Hauling      | 0.0545        | 1.8728        | 0.4611        | 5.0100e-003        | 0.1088        | 8.0600e-003        | 0.1168        | 0.0298         | 7.7100e-003        | 0.0375        |          | 536.0668        | 536.0668        | 0.0311        |     | 536.8443        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Worker       | 0.0937        | 0.0515        | 0.7221        | 1.6500e-003        | 0.1521        | 1.0800e-003        | 0.1532        | 0.0404         | 1.0000e-003        | 0.0414        |          | 163.7283        | 163.7283        | 5.1500e-003   |     | 163.8572        |
| <b>Total</b> | <b>0.1482</b> | <b>1.9243</b> | <b>1.1833</b> | <b>6.6600e-003</b> | <b>0.2609</b> | <b>9.1400e-003</b> | <b>0.2700</b> | <b>0.0701</b>  | <b>8.7100e-003</b> | <b>0.0788</b> |          | <b>699.7952</b> | <b>699.7952</b> | <b>0.0363</b> |     | <b>700.7015</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 6.2297        | 0.0000        | 6.2297        | 3.3331         | 0.0000        | 3.3331        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 4.7389        | 54.5202        | 33.3768        | 0.0620        |               | 2.3827        | 2.3827        |                | 2.1920        | 2.1920        | 0.0000        | 6,140.0195        | 6,140.0195        | 1.9426        |     | 6,188.5854        |
| <b>Total</b>  | <b>4.7389</b> | <b>54.5202</b> | <b>33.3768</b> | <b>0.0620</b> | <b>6.2297</b> | <b>2.3827</b> | <b>8.6123</b> | <b>3.3331</b>  | <b>2.1920</b> | <b>5.5251</b> | <b>0.0000</b> | <b>6,140.0195</b> | <b>6,140.0195</b> | <b>1.9426</b> |     | <b>6,188.5854</b> |

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**3.4 Grading - 2019**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |     |                 |
| Hauling      | 0.0545        | 1.8728        | 0.4611        | 5.0100e-003        | 0.1088        | 8.0600e-003        | 0.1168        | 0.0298         | 7.7100e-003        | 0.0375        |          | 536.0668        | 536.0668        | 0.0311        |     | 536.8443        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Worker       | 0.0937        | 0.0515        | 0.7221        | 1.6500e-003        | 0.1521        | 1.0800e-003        | 0.1532        | 0.0404         | 1.0000e-003        | 0.0414        |          | 163.7283        | 163.7283        | 5.1500e-003   |     | 163.8572        |
| <b>Total</b> | <b>0.1482</b> | <b>1.9243</b> | <b>1.1833</b> | <b>6.6600e-003</b> | <b>0.2609</b> | <b>9.1400e-003</b> | <b>0.2700</b> | <b>0.0701</b>  | <b>8.7100e-003</b> | <b>0.0788</b> |          | <b>699.7952</b> | <b>699.7952</b> | <b>0.0363</b> |     | <b>700.7015</b> |

**3.5 Building Construction - 2019**

**Unmitigated Construction On-Site**

|              | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Off-Road     | 2.3612        | 21.0788        | 17.1638        | 0.0269        |               | 1.2899        | 1.2899        |                | 1.2127        | 1.2127        |          | 2,591.5802        | 2,591.5802        | 0.6313        |     | 2,607.3635        |
| <b>Total</b> | <b>2.3612</b> | <b>21.0788</b> | <b>17.1638</b> | <b>0.0269</b> |               | <b>1.2899</b> | <b>1.2899</b> |                | <b>1.2127</b> | <b>1.2127</b> |          | <b>2,591.5802</b> | <b>2,591.5802</b> | <b>0.6313</b> |     | <b>2,607.3635</b> |



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**3.5 Building Construction - 2019**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Hauling      | 0.0000        | 0.0000         | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        |     | 0.0000            |
| Vendor       | 0.6009        | 15.2122        | 4.5420         | 0.0319        | 0.7644        | 0.1098        | 0.8741        | 0.2200         | 0.1050        | 0.3250        |          | 3,368.6868        | 3,368.6868        | 0.2024        |     | 3,373.7479        |
| Worker       | 1.5276        | 0.8390         | 11.7707        | 0.0268        | 2.4799        | 0.0177        | 2.4976        | 0.6578         | 0.0163        | 0.6741        |          | 2,668.7720        | 2,668.7720        | 0.0840        |     | 2,670.8715        |
| <b>Total</b> | <b>2.1285</b> | <b>16.0512</b> | <b>16.3127</b> | <b>0.0587</b> | <b>3.2443</b> | <b>0.1274</b> | <b>3.3717</b> | <b>0.8778</b>  | <b>0.1213</b> | <b>0.9991</b> |          | <b>6,037.4588</b> | <b>6,037.4588</b> | <b>0.2864</b> |     | <b>6,044.6194</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |                |                |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Off-Road     | 2.3612        | 21.0788        | 17.1638        | 0.0269        |               | 1.2899        | 1.2899        |                | 1.2127        | 1.2127        | 0.0000        | 2,591.5802        | 2,591.5802        | 0.6313        |     | 2,607.3635        |
| <b>Total</b> | <b>2.3612</b> | <b>21.0788</b> | <b>17.1638</b> | <b>0.0269</b> |               | <b>1.2899</b> | <b>1.2899</b> |                | <b>1.2127</b> | <b>1.2127</b> | <b>0.0000</b> | <b>2,591.5802</b> | <b>2,591.5802</b> | <b>0.6313</b> |     | <b>2,607.3635</b> |

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**3.5 Building Construction - 2019**

**Mitigated Construction Off-Site**

|              | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Hauling      | 0.0000        | 0.0000         | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        |     | 0.0000            |
| Vendor       | 0.6009        | 15.2122        | 4.5420         | 0.0319        | 0.7644        | 0.1098        | 0.8741        | 0.2200         | 0.1050        | 0.3250        |          | 3,368.6868        | 3,368.6868        | 0.2024        |     | 3,373.7479        |
| Worker       | 1.5276        | 0.8390         | 11.7707        | 0.0268        | 2.4799        | 0.0177        | 2.4976        | 0.6578         | 0.0163        | 0.6741        |          | 2,668.7720        | 2,668.7720        | 0.0840        |     | 2,670.8715        |
| <b>Total</b> | <b>2.1285</b> | <b>16.0512</b> | <b>16.3127</b> | <b>0.0587</b> | <b>3.2443</b> | <b>0.1274</b> | <b>3.3717</b> | <b>0.8778</b>  | <b>0.1213</b> | <b>0.9991</b> |          | <b>6,037.4588</b> | <b>6,037.4588</b> | <b>0.2864</b> |     | <b>6,044.6194</b> |

**3.6 Paving - 2020**

**Unmitigated Construction On-Site**

|              | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Off-Road     | 1.3566        | 14.0656        | 14.6521        | 0.0228        |               | 0.7528        | 0.7528        |                | 0.6926        | 0.6926        |          | 2,207.7334        | 2,207.7334        | 0.7140        |     | 2,225.5841        |
| Paving       | 3.1527        |                |                |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                   | 0.0000            |               |     | 0.0000            |
| <b>Total</b> | <b>4.5093</b> | <b>14.0656</b> | <b>14.6521</b> | <b>0.0228</b> |               | <b>0.7528</b> | <b>0.7528</b> |                | <b>0.6926</b> | <b>0.6926</b> |          | <b>2,207.7334</b> | <b>2,207.7334</b> | <b>0.7140</b> |     | <b>2,225.5841</b> |

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**3.6 Paving - 2020**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |     |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             |     | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             |     | 0.0000          |
| Worker       | 0.0647        | 0.0343        | 0.4898        | 1.2000e-003        | 0.1141        | 7.9000e-004        | 0.1149        | 0.0303         | 7.3000e-004        | 0.0310        |          | 119.0269        | 119.0269        | 3.4100e-003        |     | 119.1122        |
| <b>Total</b> | <b>0.0647</b> | <b>0.0343</b> | <b>0.4898</b> | <b>1.2000e-003</b> | <b>0.1141</b> | <b>7.9000e-004</b> | <b>0.1149</b> | <b>0.0303</b>  | <b>7.3000e-004</b> | <b>0.0310</b> |          | <b>119.0269</b> | <b>119.0269</b> | <b>3.4100e-003</b> |     | <b>119.1122</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |                |                |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Off-Road     | 1.3566        | 14.0656        | 14.6521        | 0.0228        |               | 0.7528        | 0.7528        |                | 0.6926        | 0.6926        | 0.0000        | 2,207.7334        | 2,207.7334        | 0.7140        |     | 2,225.5841        |
| Paving       | 3.1527        |                |                |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                   | 0.0000            |               |     | 0.0000            |
| <b>Total</b> | <b>4.5093</b> | <b>14.0656</b> | <b>14.6521</b> | <b>0.0228</b> |               | <b>0.7528</b> | <b>0.7528</b> |                | <b>0.6926</b> | <b>0.6926</b> | <b>0.0000</b> | <b>2,207.7334</b> | <b>2,207.7334</b> | <b>0.7140</b> |     | <b>2,225.5841</b> |

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**3.6 Paving - 2020**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |     |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             |     | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             |     | 0.0000          |
| Worker       | 0.0647        | 0.0343        | 0.4898        | 1.2000e-003        | 0.1141        | 7.9000e-004        | 0.1149        | 0.0303         | 7.3000e-004        | 0.0310        |          | 119.0269        | 119.0269        | 3.4100e-003        |     | 119.1122        |
| <b>Total</b> | <b>0.0647</b> | <b>0.0343</b> | <b>0.4898</b> | <b>1.2000e-003</b> | <b>0.1141</b> | <b>7.9000e-004</b> | <b>0.1149</b> | <b>0.0303</b>  | <b>7.3000e-004</b> | <b>0.0310</b> |          | <b>119.0269</b> | <b>119.0269</b> | <b>3.4100e-003</b> |     | <b>119.1122</b> |

**3.7 Architectural Coating - 2019**

**Unmitigated Construction On-Site**

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category        | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Archit. Coating | 0.6759        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                 | 0.0000          |               |     | 0.0000          |
| Off-Road        | 0.2664        | 1.8354        | 1.8413        | 2.9700e-003        |               | 0.1288        | 0.1288        |                | 0.1288        | 0.1288        |          | 281.4481        | 281.4481        | 0.0238        |     | 282.0423        |
| <b>Total</b>    | <b>0.9423</b> | <b>1.8354</b> | <b>1.8413</b> | <b>2.9700e-003</b> |               | <b>0.1288</b> | <b>0.1288</b> |                | <b>0.1288</b> | <b>0.1288</b> |          | <b>281.4481</b> | <b>281.4481</b> | <b>0.0238</b> |     | <b>282.0423</b> |

Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Summer

**3.7 Architectural Coating - 2019**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |     |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Worker       | 0.3046        | 0.1673        | 2.3469        | 5.3500e-003        | 0.4945        | 3.5200e-003        | 0.4980        | 0.1312         | 3.2500e-003        | 0.1344        |          | 532.1171        | 532.1171        | 0.0167        |     | 532.5357        |
| <b>Total</b> | <b>0.3046</b> | <b>0.1673</b> | <b>2.3469</b> | <b>5.3500e-003</b> | <b>0.4945</b> | <b>3.5200e-003</b> | <b>0.4980</b> | <b>0.1312</b>  | <b>3.2500e-003</b> | <b>0.1344</b> |          | <b>532.1171</b> | <b>532.1171</b> | <b>0.0167</b> |     | <b>532.5357</b> |

**Mitigated Construction On-Site**

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|-----|-----------------|
| Category        | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day        |                 |                 |               |     |                 |
| Archit. Coating | 0.6759        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                 | 0.0000          |               |     | 0.0000          |
| Off-Road        | 0.2664        | 1.8354        | 1.8413        | 2.9700e-003        |               | 0.1288        | 0.1288        |                | 0.1288        | 0.1288        | 0.0000        | 281.4481        | 281.4481        | 0.0238        |     | 282.0423        |
| <b>Total</b>    | <b>0.9423</b> | <b>1.8354</b> | <b>1.8413</b> | <b>2.9700e-003</b> |               | <b>0.1288</b> | <b>0.1288</b> |                | <b>0.1288</b> | <b>0.1288</b> | <b>0.0000</b> | <b>281.4481</b> | <b>281.4481</b> | <b>0.0238</b> |     | <b>282.0423</b> |

Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Summer

**3.7 Architectural Coating - 2019**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |     |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Worker       | 0.3046        | 0.1673        | 2.3469        | 5.3500e-003        | 0.4945        | 3.5200e-003        | 0.4980        | 0.1312         | 3.2500e-003        | 0.1344        |          | 532.1171        | 532.1171        | 0.0167        |     | 532.5357        |
| <b>Total</b> | <b>0.3046</b> | <b>0.1673</b> | <b>2.3469</b> | <b>5.3500e-003</b> | <b>0.4945</b> | <b>3.5200e-003</b> | <b>0.4980</b> | <b>0.1312</b>  | <b>3.2500e-003</b> | <b>0.1344</b> |          | <b>532.1171</b> | <b>532.1171</b> | <b>0.0167</b> |     | <b>532.5357</b> |

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Summer

|             | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O | CO2e   |
|-------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|-----|--------|
| Category    | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |           |           |        |     |        |
| Mitigated   | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 |     | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 |     | 0.0000 |

4.2 Trip Summary Information

| Land Use    | Average Daily Trip Rate |          |        | Unmitigated | Mitigated  |
|-------------|-------------------------|----------|--------|-------------|------------|
|             | Weekday                 | Saturday | Sunday | Annual VMT  | Annual VMT |
| City Park   | 0.00                    | 0.00     | 0.00   |             |            |
| Parking Lot | 0.00                    | 0.00     | 0.00   |             |            |
| Total       | 0.00                    | 0.00     | 0.00   |             |            |

4.3 Trip Type Information

| Land Use    | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|-------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|             | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| City Park   | 0.00       | 0.00       | 0.00        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot | 0.00       | 0.00       | 0.00        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |

4.4 Fleet Mix

| Land Use    | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| City Park   | 0.551662 | 0.040953 | 0.203778 | 0.123762 | 0.021802 | 0.005583 | 0.018466 | 0.022043 | 0.002076 | 0.002280 | 0.006004 | 0.000618 | 0.000971 |
| Parking Lot | 0.551662 | 0.040953 | 0.203778 | 0.123762 | 0.021802 | 0.005583 | 0.018466 | 0.022043 | 0.002076 | 0.002280 | 0.006004 | 0.000618 | 0.000971 |

Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Summer

**5.0 Energy Detail**

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Historical Energy Use: N

**5.1 Mitigation Measures Energy**

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|                        | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e   |
|------------------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|--------|
| Category               | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |           |           |        |        |        |
| NaturalGas Mitigated   | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| NaturalGas Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |



Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Summer

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

|              | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use     | kBTU/yr        | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| City Park    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**Mitigated**

|              | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use     | kBTU/yr        | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| City Park    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Summer

|             | ROG    | NOx         | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O | CO2e   |
|-------------|--------|-------------|--------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-----|--------|
| Category    | lb/day |             |        |        |               |              |             |                |               |             | lb/day   |           |           |             |     |        |
| Mitigated   | 0.1048 | 3.9000e-004 | 0.0427 | 0.0000 |               | 1.5000e-004  | 1.5000e-004 |                | 1.5000e-004   | 1.5000e-004 |          | 0.0909    | 0.0909    | 2.4000e-004 |     | 0.0970 |
| Unmitigated | 0.1048 | 3.9000e-004 | 0.0427 | 0.0000 |               | 1.5000e-004  | 1.5000e-004 |                | 1.5000e-004   | 1.5000e-004 |          | 0.0909    | 0.0909    | 2.4000e-004 |     | 0.0970 |

6.2 Area by SubCategory

Unmitigated

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.0122        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 0.0886        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 4.0100e-003   | 3.9000e-004        | 0.0427        | 0.0000        |               | 1.5000e-004        | 1.5000e-004        |                | 1.5000e-004        | 1.5000e-004        |          | 0.0909        | 0.0909        | 2.4000e-004        |     | 0.0970        |
| <b>Total</b>          | <b>0.1048</b> | <b>3.9000e-004</b> | <b>0.0427</b> | <b>0.0000</b> |               | <b>1.5000e-004</b> | <b>1.5000e-004</b> |                | <b>1.5000e-004</b> | <b>1.5000e-004</b> |          | <b>0.0909</b> | <b>0.0909</b> | <b>2.4000e-004</b> |     | <b>0.0970</b> |

Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Summer

**6.2 Area by SubCategory**

Mitigated

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.0122        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 0.0886        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 4.0100e-003   | 3.9000e-004        | 0.0427        | 0.0000        |               | 1.5000e-004        | 1.5000e-004        |                | 1.5000e-004        | 1.5000e-004        |          | 0.0909        | 0.0909        | 2.4000e-004        |     | 0.0970        |
| <b>Total</b>          | <b>0.1048</b> | <b>3.9000e-004</b> | <b>0.0427</b> | <b>0.0000</b> |               | <b>1.5000e-004</b> | <b>1.5000e-004</b> |                | <b>1.5000e-004</b> | <b>1.5000e-004</b> |          | <b>0.0909</b> | <b>0.0909</b> | <b>2.4000e-004</b> |     | <b>0.0970</b> |

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

Fire Pumps and Emergency Generators

Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Summer

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

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Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Winter

**Christian Brothers High School Sports Complex Renovation Project**  
**Sacramento Metropolitan AQMD Air District, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

| Land Uses   | Size   | Metric | Lot Acreage | Floor Surface Area | Population |
|-------------|--------|--------|-------------|--------------------|------------|
| City Park   | 14.15  | Acre   | 14.15       | 616,374.00         | 0          |
| Parking Lot | 401.00 | Space  | 3.61        | 160,400.00         | 0          |

**1.2 Other Project Characteristics**

|                                 |                                       |                                 |       |                                  |       |
|---------------------------------|---------------------------------------|---------------------------------|-------|----------------------------------|-------|
| <b>Urbanization</b>             | Urban                                 | <b>Wind Speed (m/s)</b>         | 3.5   | <b>Precipitation Freq (Days)</b> | 58    |
| <b>Climate Zone</b>             | 6                                     |                                 |       | <b>Operational Year</b>          | 2020  |
| <b>Utility Company</b>          | Sacramento Municipal Utility District |                                 |       |                                  |       |
| <b>CO2 Intensity (lb/MW hr)</b> | 440.33                                | <b>CH4 Intensity (lb/MW hr)</b> | 0.029 | <b>N2O Intensity (lb/MW hr)</b>  | 0.006 |

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - CO2 Intensity Factor calculated with SMUD RPS Calculator

Land Use -

Construction Phase - Applicant provided information

Grading - Applicant Provided Information

Demolition - Based on map measurements

Vehicle Trips - Not modeling operational emissions

| Table Name           | Column Name | Default Value | New Value |
|----------------------|-------------|---------------|-----------|
| tblConstructionPhase | NumDays     | 20.00         | 66.00     |

## Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Winter

|                           |                    |            |            |
|---------------------------|--------------------|------------|------------|
| tblConstructionPhase      | NumDays            | 300.00     | 66.00      |
| tblConstructionPhase      | NumDays            | 30.00      | 20.00      |
| tblConstructionPhase      | NumDays            | 20.00      | 3.00       |
| tblConstructionPhase      | NumDays            | 10.00      | 21.00      |
| tblConstructionPhase      | PhaseEndDate       | 11/10/2020 | 8/14/2019  |
| tblConstructionPhase      | PhaseEndDate       | 9/15/2020  | 10/29/2019 |
| tblConstructionPhase      | PhaseEndDate       | 7/23/2019  | 7/24/2019  |
| tblConstructionPhase      | PhaseEndDate       | 10/13/2020 | 7/29/2020  |
| tblConstructionPhase      | PhaseEndDate       | 6/11/2019  | 6/26/2019  |
| tblConstructionPhase      | PhaseStartDate     | 10/14/2020 | 5/15/2019  |
| tblConstructionPhase      | PhaseStartDate     | 7/24/2019  | 7/30/2019  |
| tblConstructionPhase      | PhaseStartDate     | 6/12/2019  | 6/27/2019  |
| tblConstructionPhase      | PhaseStartDate     | 9/16/2020  | 7/27/2020  |
| tblGrading                | AcresOfGrading     | 50.00      | 3.72       |
| tblGrading                | MaterialExported   | 0.00       | 1,000.00   |
| tblGrading                | MaterialExported   | 0.00       | 1,000.00   |
| tblProjectCharacteristics | CO2IntensityFactor | 590.31     | 440.33     |
| tblVehicleTrips           | CC_TL              | 5.00       | 0.00       |
| tblVehicleTrips           | CC_TL              | 5.00       | 0.00       |
| tblVehicleTrips           | CC_TTP             | 48.00      | 0.00       |
| tblVehicleTrips           | CNW_TL             | 6.50       | 0.00       |
| tblVehicleTrips           | CNW_TL             | 6.50       | 0.00       |
| tblVehicleTrips           | CNW_TTP            | 19.00      | 0.00       |
| tblVehicleTrips           | CW_TL              | 10.00      | 0.00       |
| tblVehicleTrips           | CW_TL              | 10.00      | 0.00       |
| tblVehicleTrips           | CW_TTP             | 33.00      | 0.00       |
| tblVehicleTrips           | DV_TP              | 28.00      | 0.00       |

## Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Winter

|                 |       |       |      |
|-----------------|-------|-------|------|
| tblVehicleTrips | PB_TP | 6.00  | 0.00 |
| tblVehicleTrips | PR_TP | 66.00 | 0.00 |
| tblVehicleTrips | ST_TR | 22.75 | 0.00 |
| tblVehicleTrips | SU_TR | 16.74 | 0.00 |
| tblVehicleTrips | WD_TR | 1.89  | 0.00 |

## 2.0 Emissions Summary

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Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Winter

**2.2 Overall Operational**

**Unmitigated Operational**

|              | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|---------------|---------------|
| Category     | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |               |               |
| Area         | 0.1048        | 3.9000e-004        | 0.0427        | 0.0000        |               | 1.5000e-004        | 1.5000e-004        |                | 1.5000e-004        | 1.5000e-004        |          | 0.0909        | 0.0909        | 2.4000e-004        |               | 0.0970        |
| Energy       | 0.0000        | 0.0000             | 0.0000        | 0.0000        |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Mobile       | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000         | 0.0000             | 0.0000             |          | 0.0000        | 0.0000        | 0.0000             |               | 0.0000        |
| <b>Total</b> | <b>0.1048</b> | <b>3.9000e-004</b> | <b>0.0427</b> | <b>0.0000</b> | <b>0.0000</b> | <b>1.5000e-004</b> | <b>1.5000e-004</b> | <b>0.0000</b>  | <b>1.5000e-004</b> | <b>1.5000e-004</b> |          | <b>0.0909</b> | <b>0.0909</b> | <b>2.4000e-004</b> | <b>0.0000</b> | <b>0.0970</b> |

**Mitigated Operational**

|              | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O           | CO2e          |
|--------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|---------------|---------------|
| Category     | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |               |               |
| Area         | 0.1048        | 3.9000e-004        | 0.0427        | 0.0000        |               | 1.5000e-004        | 1.5000e-004        |                | 1.5000e-004        | 1.5000e-004        |          | 0.0909        | 0.0909        | 2.4000e-004        |               | 0.0970        |
| Energy       | 0.0000        | 0.0000             | 0.0000        | 0.0000        |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        |
| Mobile       | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000             | 0.0000         | 0.0000             | 0.0000             |          | 0.0000        | 0.0000        | 0.0000             |               | 0.0000        |
| <b>Total</b> | <b>0.1048</b> | <b>3.9000e-004</b> | <b>0.0427</b> | <b>0.0000</b> | <b>0.0000</b> | <b>1.5000e-004</b> | <b>1.5000e-004</b> | <b>0.0000</b>  | <b>1.5000e-004</b> | <b>1.5000e-004</b> |          | <b>0.0909</b> | <b>0.0909</b> | <b>2.4000e-004</b> | <b>0.0000</b> | <b>0.0970</b> |

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|                   | ROG  | NOx  | CO   | SO2  | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-------------------|------|------|------|------|---------------|--------------|------------|----------------|---------------|-------------|----------|----------|-----------|------|------|------|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00          | 0.00         | 0.00       | 0.00           | 0.00          | 0.00        | 0.00     | 0.00     | 0.00      | 0.00 | 0.00 | 0.00 |

### 3.0 Construction Detail

#### Construction Phase

| Phase Number | Phase Name            | Phase Type            | Start Date | End Date   | Num Days Week | Num Days | Phase Description |
|--------------|-----------------------|-----------------------|------------|------------|---------------|----------|-------------------|
| 1            | Demolition            | Demolition            | 5/1/2019   | 5/28/2019  | 5             | 20       |                   |
| 2            | Site Preparation      | Site Preparation      | 5/29/2019  | 6/26/2019  | 5             | 21       |                   |
| 3            | Grading               | Grading               | 6/27/2019  | 7/24/2019  | 5             | 20       |                   |
| 4            | Building Construction | Building Construction | 7/30/2019  | 10/29/2019 | 5             | 66       |                   |
| 5            | Paving                | Paving                | 7/27/2020  | 7/29/2020  | 5             | 3        |                   |
| 6            | Architectural Coating | Architectural Coating | 5/15/2019  | 8/14/2019  | 5             | 66       |                   |

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.72

Acres of Paving: 3.61

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 9,624 (Architectural Coating – sqft)

#### OffRoad Equipment

## Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Winter

| Phase Name            | Offroad Equipment Type    | Amount | Usage Hours | Horse Power | Load Factor |
|-----------------------|---------------------------|--------|-------------|-------------|-------------|
| Architectural Coating | Air Compressors           | 1      | 6.00        | 78          | 0.48        |
| Demolition            | Excavators                | 3      | 8.00        | 158         | 0.38        |
| Demolition            | Concrete/Industrial Saws  | 1      | 8.00        | 81          | 0.73        |
| Grading               | Excavators                | 2      | 8.00        | 158         | 0.38        |
| Building Construction | Cranes                    | 1      | 7.00        | 231         | 0.29        |
| Building Construction | Forklifts                 | 3      | 8.00        | 89          | 0.20        |
| Building Construction | Generator Sets            | 1      | 8.00        | 84          | 0.74        |
| Paving                | Pavers                    | 2      | 8.00        | 130         | 0.42        |
| Paving                | Rollers                   | 2      | 8.00        | 80          | 0.38        |
| Demolition            | Rubber Tired Dozers       | 2      | 8.00        | 247         | 0.40        |
| Grading               | Rubber Tired Dozers       | 1      | 8.00        | 247         | 0.40        |
| Building Construction | Tractors/Loaders/Backhoes | 3      | 7.00        | 97          | 0.37        |
| Grading               | Graders                   | 1      | 8.00        | 187         | 0.41        |
| Grading               | Tractors/Loaders/Backhoes | 2      | 8.00        | 97          | 0.37        |
| Paving                | Paving Equipment          | 2      | 8.00        | 132         | 0.36        |
| Site Preparation      | Tractors/Loaders/Backhoes | 4      | 8.00        | 97          | 0.37        |
| Site Preparation      | Rubber Tired Dozers       | 3      | 8.00        | 247         | 0.40        |
| Grading               | Scrapers                  | 2      | 8.00        | 367         | 0.48        |
| Building Construction | Welders                   | 1      | 8.00        | 46          | 0.45        |

Trips and VMT

Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Winter

| Phase Name            | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|-----------------------|-------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|---------------------|----------------------|----------------------|-----------------------|
| Demolition            | 6                       | 15.00              | 0.00               | 176.00              | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Site Preparation      | 7                       | 18.00              | 0.00               | 125.00              | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Grading               | 8                       | 20.00              | 0.00               | 125.00              | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Building Construction | 9                       | 326.00             | 127.00             | 0.00                | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Paving                | 6                       | 15.00              | 0.00               | 0.00                | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |
| Architectural Coating | 1                       | 65.00              | 0.00               | 0.00                | 10.00              | 6.50               | 20.00               | LD_Mix               | HDT_Mix              | HHDT                  |

**3.1 Mitigation Measures Construction**

**3.2 Demolition - 2019**

**Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 1.9800        | 0.0000        | 1.9800        | 0.2998         | 0.0000        | 0.2998        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 3.5134        | 35.7830        | 22.0600        | 0.0388        |               | 1.7949        | 1.7949        |                | 1.6697        | 1.6697        |          | 3,816.8994        | 3,816.8994        | 1.0618        |     | 3,843.4451        |
| <b>Total</b>  | <b>3.5134</b> | <b>35.7830</b> | <b>22.0600</b> | <b>0.0388</b> | <b>1.9800</b> | <b>1.7949</b> | <b>3.7749</b> | <b>0.2998</b>  | <b>1.6697</b> | <b>1.9695</b> |          | <b>3,816.8994</b> | <b>3,816.8994</b> | <b>1.0618</b> |     | <b>3,843.4451</b> |

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**3.2 Demolition - 2019**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Hauling      | 0.0795        | 2.7500        | 0.6964        | 6.9500e-003        | 0.1531        | 0.0117        | 0.1648        | 0.0419         | 0.0112        | 0.0531        |          | 743.4403        | 743.4403        | 0.0459        |     | 744.5882        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Worker       | 0.0647        | 0.0477        | 0.4660        | 1.0800e-003        | 0.1141        | 8.1000e-004   | 0.1149        | 0.0303         | 7.5000e-004   | 0.0310        |          | 107.8500        | 107.8500        | 3.4200e-003   |     | 107.9356        |
| <b>Total</b> | <b>0.1442</b> | <b>2.7978</b> | <b>1.1623</b> | <b>8.0300e-003</b> | <b>0.2672</b> | <b>0.0125</b> | <b>0.2798</b> | <b>0.0722</b>  | <b>0.0120</b> | <b>0.0841</b> |          | <b>851.2903</b> | <b>851.2903</b> | <b>0.0493</b> |     | <b>852.5238</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 1.9800        | 0.0000        | 1.9800        | 0.2998         | 0.0000        | 0.2998        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 3.5134        | 35.7830        | 22.0600        | 0.0388        |               | 1.7949        | 1.7949        |                | 1.6697        | 1.6697        | 0.0000        | 3,816.8994        | 3,816.8994        | 1.0618        |     | 3,843.4451        |
| <b>Total</b>  | <b>3.5134</b> | <b>35.7830</b> | <b>22.0600</b> | <b>0.0388</b> | <b>1.9800</b> | <b>1.7949</b> | <b>3.7749</b> | <b>0.2998</b>  | <b>1.6697</b> | <b>1.9695</b> | <b>0.0000</b> | <b>3,816.8994</b> | <b>3,816.8994</b> | <b>1.0618</b> |     | <b>3,843.4451</b> |

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**3.2 Demolition - 2019**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Hauling      | 0.0795        | 2.7500        | 0.6964        | 6.9500e-003        | 0.1531        | 0.0117        | 0.1648        | 0.0419         | 0.0112        | 0.0531        |          | 743.4403        | 743.4403        | 0.0459        |     | 744.5882        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Worker       | 0.0647        | 0.0477        | 0.4660        | 1.0800e-003        | 0.1141        | 8.1000e-004   | 0.1149        | 0.0303         | 7.5000e-004   | 0.0310        |          | 107.8500        | 107.8500        | 3.4200e-003   |     | 107.9356        |
| <b>Total</b> | <b>0.1442</b> | <b>2.7978</b> | <b>1.1623</b> | <b>8.0300e-003</b> | <b>0.2672</b> | <b>0.0125</b> | <b>0.2798</b> | <b>0.0722</b>  | <b>0.0120</b> | <b>0.0841</b> |          | <b>851.2903</b> | <b>851.2903</b> | <b>0.0493</b> |     | <b>852.5238</b> |

**3.3 Site Preparation - 2019**

**Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10  | Exhaust PM10  | PM10 Total     | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total    | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|----------------|---------------|----------------|----------------|---------------|----------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |                |               |                |                |               |                | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 18.0761        | 0.0000        | 18.0761        | 9.9322         | 0.0000        | 9.9322         |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 4.3350        | 45.5727        | 22.0630        | 0.0380        |                | 2.3904        | 2.3904         |                | 2.1991        | 2.1991         |          | 3,766.4529        | 3,766.4529        | 1.1917        |     | 3,796.2445        |
| <b>Total</b>  | <b>4.3350</b> | <b>45.5727</b> | <b>22.0630</b> | <b>0.0380</b> | <b>18.0761</b> | <b>2.3904</b> | <b>20.4665</b> | <b>9.9322</b>  | <b>2.1991</b> | <b>12.1313</b> |          | <b>3,766.4529</b> | <b>3,766.4529</b> | <b>1.1917</b> |     | <b>3,796.2445</b> |

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**3.3 Site Preparation - 2019**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |     |                 |
| Hauling      | 0.0538        | 1.8601        | 0.4710        | 4.7000e-003        | 0.1036        | 7.9200e-003        | 0.1115        | 0.0284         | 7.5700e-003        | 0.0359        |          | 502.8682        | 502.8682        | 0.0311        |     | 503.6446        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Worker       | 0.0776        | 0.0573        | 0.5591        | 1.3000e-003        | 0.1369        | 9.8000e-004        | 0.1379        | 0.0363         | 9.0000e-004        | 0.0372        |          | 129.4200        | 129.4200        | 4.1100e-003   |     | 129.5227        |
| <b>Total</b> | <b>0.1314</b> | <b>1.9174</b> | <b>1.0302</b> | <b>6.0000e-003</b> | <b>0.2405</b> | <b>8.9000e-003</b> | <b>0.2494</b> | <b>0.0647</b>  | <b>8.4700e-003</b> | <b>0.0731</b> |          | <b>632.2882</b> | <b>632.2882</b> | <b>0.0352</b> |     | <b>633.1673</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10  | Exhaust PM10  | PM10 Total     | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total    | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|----------------|---------------|----------------|----------------|---------------|----------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |                |               |                |                |               |                | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 18.0761        | 0.0000        | 18.0761        | 9.9322         | 0.0000        | 9.9322         |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 4.3350        | 45.5727        | 22.0630        | 0.0380        |                | 2.3904        | 2.3904         |                | 2.1991        | 2.1991         | 0.0000        | 3,766.4529        | 3,766.4529        | 1.1917        |     | 3,796.2445        |
| <b>Total</b>  | <b>4.3350</b> | <b>45.5727</b> | <b>22.0630</b> | <b>0.0380</b> | <b>18.0761</b> | <b>2.3904</b> | <b>20.4665</b> | <b>9.9322</b>  | <b>2.1991</b> | <b>12.1313</b> | <b>0.0000</b> | <b>3,766.4529</b> | <b>3,766.4529</b> | <b>1.1917</b> |     | <b>3,796.2445</b> |

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**3.3 Site Preparation - 2019**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |     |                 |
| Hauling      | 0.0538        | 1.8601        | 0.4710        | 4.7000e-003        | 0.1036        | 7.9200e-003        | 0.1115        | 0.0284         | 7.5700e-003        | 0.0359        |          | 502.8682        | 502.8682        | 0.0311        |     | 503.6446        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Worker       | 0.0776        | 0.0573        | 0.5591        | 1.3000e-003        | 0.1369        | 9.8000e-004        | 0.1379        | 0.0363         | 9.0000e-004        | 0.0372        |          | 129.4200        | 129.4200        | 4.1100e-003   |     | 129.5227        |
| <b>Total</b> | <b>0.1314</b> | <b>1.9174</b> | <b>1.0302</b> | <b>6.0000e-003</b> | <b>0.2405</b> | <b>8.9000e-003</b> | <b>0.2494</b> | <b>0.0647</b>  | <b>8.4700e-003</b> | <b>0.0731</b> |          | <b>632.2882</b> | <b>632.2882</b> | <b>0.0352</b> |     | <b>633.1673</b> |

**3.4 Grading - 2019**

**Unmitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 6.2297        | 0.0000        | 6.2297        | 3.3331         | 0.0000        | 3.3331        |          |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 4.7389        | 54.5202        | 33.3768        | 0.0620        |               | 2.3827        | 2.3827        |                | 2.1920        | 2.1920        |          | 6,140.0195        | 6,140.0195        | 1.9426        |     | 6,188.5854        |
| <b>Total</b>  | <b>4.7389</b> | <b>54.5202</b> | <b>33.3768</b> | <b>0.0620</b> | <b>6.2297</b> | <b>2.3827</b> | <b>8.6123</b> | <b>3.3331</b>  | <b>2.1920</b> | <b>5.5251</b> |          | <b>6,140.0195</b> | <b>6,140.0195</b> | <b>1.9426</b> |     | <b>6,188.5854</b> |



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**3.4 Grading - 2019**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |     |                 |
| Hauling      | 0.0565        | 1.9531        | 0.4946        | 4.9300e-003        | 0.1088        | 8.3100e-003        | 0.1171        | 0.0298         | 7.9500e-003        | 0.0377        |          | 528.0116        | 528.0116        | 0.0326        |     | 528.8268        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Worker       | 0.0863        | 0.0637        | 0.6213        | 1.4500e-003        | 0.1521        | 1.0800e-003        | 0.1532        | 0.0404         | 1.0000e-003        | 0.0414        |          | 143.8000        | 143.8000        | 4.5600e-003   |     | 143.9141        |
| <b>Total</b> | <b>0.1427</b> | <b>2.0168</b> | <b>1.1159</b> | <b>6.3800e-003</b> | <b>0.2609</b> | <b>9.3900e-003</b> | <b>0.2703</b> | <b>0.0701</b>  | <b>8.9500e-003</b> | <b>0.0791</b> |          | <b>671.8116</b> | <b>671.8116</b> | <b>0.0372</b> |     | <b>672.7410</b> |

**Mitigated Construction On-Site**

|               | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|---------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category      | lb/day        |                |                |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Fugitive Dust |               |                |                |               | 6.2297        | 0.0000        | 6.2297        | 3.3331         | 0.0000        | 3.3331        |               |                   | 0.0000            |               |     | 0.0000            |
| Off-Road      | 4.7389        | 54.5202        | 33.3768        | 0.0620        |               | 2.3827        | 2.3827        |                | 2.1920        | 2.1920        | 0.0000        | 6,140.0195        | 6,140.0195        | 1.9426        |     | 6,188.5854        |
| <b>Total</b>  | <b>4.7389</b> | <b>54.5202</b> | <b>33.3768</b> | <b>0.0620</b> | <b>6.2297</b> | <b>2.3827</b> | <b>8.6123</b> | <b>3.3331</b>  | <b>2.1920</b> | <b>5.5251</b> | <b>0.0000</b> | <b>6,140.0195</b> | <b>6,140.0195</b> | <b>1.9426</b> |     | <b>6,188.5854</b> |

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**3.4 Grading - 2019**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |     |                 |
| Hauling      | 0.0565        | 1.9531        | 0.4946        | 4.9300e-003        | 0.1088        | 8.3100e-003        | 0.1171        | 0.0298         | 7.9500e-003        | 0.0377        |          | 528.0116        | 528.0116        | 0.0326        |     | 528.8268        |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Worker       | 0.0863        | 0.0637        | 0.6213        | 1.4500e-003        | 0.1521        | 1.0800e-003        | 0.1532        | 0.0404         | 1.0000e-003        | 0.0414        |          | 143.8000        | 143.8000        | 4.5600e-003   |     | 143.9141        |
| <b>Total</b> | <b>0.1427</b> | <b>2.0168</b> | <b>1.1159</b> | <b>6.3800e-003</b> | <b>0.2609</b> | <b>9.3900e-003</b> | <b>0.2703</b> | <b>0.0701</b>  | <b>8.9500e-003</b> | <b>0.0791</b> |          | <b>671.8116</b> | <b>671.8116</b> | <b>0.0372</b> |     | <b>672.7410</b> |

**3.5 Building Construction - 2019**

**Unmitigated Construction On-Site**

|              | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Off-Road     | 2.3612        | 21.0788        | 17.1638        | 0.0269        |               | 1.2899        | 1.2899        |                | 1.2127        | 1.2127        |          | 2,591.5802        | 2,591.5802        | 0.6313        |     | 2,607.3635        |
| <b>Total</b> | <b>2.3612</b> | <b>21.0788</b> | <b>17.1638</b> | <b>0.0269</b> |               | <b>1.2899</b> | <b>1.2899</b> |                | <b>1.2127</b> | <b>1.2127</b> |          | <b>2,591.5802</b> | <b>2,591.5802</b> | <b>0.6313</b> |     | <b>2,607.3635</b> |

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**3.5 Building Construction - 2019**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Hauling      | 0.0000        | 0.0000         | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        |     | 0.0000            |
| Vendor       | 0.6317        | 15.5836        | 5.1668         | 0.0311        | 0.7644        | 0.1127        | 0.8771        | 0.2200         | 0.1078        | 0.3278        |          | 3,284.0398        | 3,284.0398        | 0.2194        |     | 3,289.5239        |
| Worker       | 1.4060        | 1.0374         | 10.1267        | 0.0236        | 2.4799        | 0.0177        | 2.4976        | 0.6578         | 0.0163        | 0.6741        |          | 2,343.9404        | 2,343.9404        | 0.0744        |     | 2,345.8004        |
| <b>Total</b> | <b>2.0377</b> | <b>16.6211</b> | <b>15.2935</b> | <b>0.0546</b> | <b>3.2443</b> | <b>0.1304</b> | <b>3.3747</b> | <b>0.8778</b>  | <b>0.1241</b> | <b>1.0019</b> |          | <b>5,627.9802</b> | <b>5,627.9802</b> | <b>0.2938</b> |     | <b>5,635.3243</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |                |                |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Off-Road     | 2.3612        | 21.0788        | 17.1638        | 0.0269        |               | 1.2899        | 1.2899        |                | 1.2127        | 1.2127        | 0.0000        | 2,591.5802        | 2,591.5802        | 0.6313        |     | 2,607.3635        |
| <b>Total</b> | <b>2.3612</b> | <b>21.0788</b> | <b>17.1638</b> | <b>0.0269</b> |               | <b>1.2899</b> | <b>1.2899</b> |                | <b>1.2127</b> | <b>1.2127</b> | <b>0.0000</b> | <b>2,591.5802</b> | <b>2,591.5802</b> | <b>0.6313</b> |     | <b>2,607.3635</b> |

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**3.5 Building Construction - 2019**

**Mitigated Construction Off-Site**

|              | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Hauling      | 0.0000        | 0.0000         | 0.0000         | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000         | 0.0000        | 0.0000        |          | 0.0000            | 0.0000            | 0.0000        |     | 0.0000            |
| Vendor       | 0.6317        | 15.5836        | 5.1668         | 0.0311        | 0.7644        | 0.1127        | 0.8771        | 0.2200         | 0.1078        | 0.3278        |          | 3,284.0398        | 3,284.0398        | 0.2194        |     | 3,289.5239        |
| Worker       | 1.4060        | 1.0374         | 10.1267        | 0.0236        | 2.4799        | 0.0177        | 2.4976        | 0.6578         | 0.0163        | 0.6741        |          | 2,343.9404        | 2,343.9404        | 0.0744        |     | 2,345.8004        |
| <b>Total</b> | <b>2.0377</b> | <b>16.6211</b> | <b>15.2935</b> | <b>0.0546</b> | <b>3.2443</b> | <b>0.1304</b> | <b>3.3747</b> | <b>0.8778</b>  | <b>0.1241</b> | <b>1.0019</b> |          | <b>5,627.9802</b> | <b>5,627.9802</b> | <b>0.2938</b> |     | <b>5,635.3243</b> |

**3.6 Paving - 2020**

**Unmitigated Construction On-Site**

|              | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |                |                |               |               |               |               |                |               |               | lb/day   |                   |                   |               |     |                   |
| Off-Road     | 1.3566        | 14.0656        | 14.6521        | 0.0228        |               | 0.7528        | 0.7528        |                | 0.6926        | 0.6926        |          | 2,207.7334        | 2,207.7334        | 0.7140        |     | 2,225.5841        |
| Paving       | 3.1527        |                |                |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                   | 0.0000            |               |     | 0.0000            |
| <b>Total</b> | <b>4.5093</b> | <b>14.0656</b> | <b>14.6521</b> | <b>0.0228</b> |               | <b>0.7528</b> | <b>0.7528</b> |                | <b>0.6926</b> | <b>0.6926</b> |          | <b>2,207.7334</b> | <b>2,207.7334</b> | <b>0.7140</b> |     | <b>2,225.5841</b> |

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**3.6 Paving - 2020**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |     |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             |     | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             |     | 0.0000          |
| Worker       | 0.0595        | 0.0424        | 0.4194        | 1.0500e-003        | 0.1141        | 7.9000e-004        | 0.1149        | 0.0303         | 7.3000e-004        | 0.0310        |          | 104.5333        | 104.5333        | 3.0100e-003        |     | 104.6084        |
| <b>Total</b> | <b>0.0595</b> | <b>0.0424</b> | <b>0.4194</b> | <b>1.0500e-003</b> | <b>0.1141</b> | <b>7.9000e-004</b> | <b>0.1149</b> | <b>0.0303</b>  | <b>7.3000e-004</b> | <b>0.0310</b> |          | <b>104.5333</b> | <b>104.5333</b> | <b>3.0100e-003</b> |     | <b>104.6084</b> |

**Mitigated Construction On-Site**

|              | ROG           | NOx            | CO             | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2         | Total CO2         | CH4           | N2O | CO2e              |
|--------------|---------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-------------------|-------------------|---------------|-----|-------------------|
| Category     | lb/day        |                |                |               |               |               |               |                |               |               | lb/day        |                   |                   |               |     |                   |
| Off-Road     | 1.3566        | 14.0656        | 14.6521        | 0.0228        |               | 0.7528        | 0.7528        |                | 0.6926        | 0.6926        | 0.0000        | 2,207.7334        | 2,207.7334        | 0.7140        |     | 2,225.5841        |
| Paving       | 3.1527        |                |                |               |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                   | 0.0000            |               |     | 0.0000            |
| <b>Total</b> | <b>4.5093</b> | <b>14.0656</b> | <b>14.6521</b> | <b>0.0228</b> |               | <b>0.7528</b> | <b>0.7528</b> |                | <b>0.6926</b> | <b>0.6926</b> | <b>0.0000</b> | <b>2,207.7334</b> | <b>2,207.7334</b> | <b>0.7140</b> |     | <b>2,225.5841</b> |

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**3.6 Paving - 2020**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4                | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|--------------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |                    |     |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             |     | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000             |     | 0.0000          |
| Worker       | 0.0595        | 0.0424        | 0.4194        | 1.0500e-003        | 0.1141        | 7.9000e-004        | 0.1149        | 0.0303         | 7.3000e-004        | 0.0310        |          | 104.5333        | 104.5333        | 3.0100e-003        |     | 104.6084        |
| <b>Total</b> | <b>0.0595</b> | <b>0.0424</b> | <b>0.4194</b> | <b>1.0500e-003</b> | <b>0.1141</b> | <b>7.9000e-004</b> | <b>0.1149</b> | <b>0.0303</b>  | <b>7.3000e-004</b> | <b>0.0310</b> |          | <b>104.5333</b> | <b>104.5333</b> | <b>3.0100e-003</b> |     | <b>104.6084</b> |

**3.7 Architectural Coating - 2019**

**Unmitigated Construction On-Site**

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category        | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day   |                 |                 |               |     |                 |
| Archit. Coating | 0.6759        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          |                 | 0.0000          |               |     | 0.0000          |
| Off-Road        | 0.2664        | 1.8354        | 1.8413        | 2.9700e-003        |               | 0.1288        | 0.1288        |                | 0.1288        | 0.1288        |          | 281.4481        | 281.4481        | 0.0238        |     | 282.0423        |
| <b>Total</b>    | <b>0.9423</b> | <b>1.8354</b> | <b>1.8413</b> | <b>2.9700e-003</b> |               | <b>0.1288</b> | <b>0.1288</b> |                | <b>0.1288</b> | <b>0.1288</b> |          | <b>281.4481</b> | <b>281.4481</b> | <b>0.0238</b> |     | <b>282.0423</b> |

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**3.7 Architectural Coating - 2019**

**Unmitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |     |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Worker       | 0.2804        | 0.2069        | 2.0191        | 4.7000e-003        | 0.4945        | 3.5200e-003        | 0.4980        | 0.1312         | 3.2500e-003        | 0.1344        |          | 467.3501        | 467.3501        | 0.0148        |     | 467.7209        |
| <b>Total</b> | <b>0.2804</b> | <b>0.2069</b> | <b>2.0191</b> | <b>4.7000e-003</b> | <b>0.4945</b> | <b>3.5200e-003</b> | <b>0.4980</b> | <b>0.1312</b>  | <b>3.2500e-003</b> | <b>0.1344</b> |          | <b>467.3501</b> | <b>467.3501</b> | <b>0.0148</b> |     | <b>467.7209</b> |

**Mitigated Construction On-Site**

|                 | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2      | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|-----------------|---------------|---------------|---------------|--------------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|-----------------|-----------------|---------------|-----|-----------------|
| Category        | lb/day        |               |               |                    |               |               |               |                |               |               | lb/day        |                 |                 |               |     |                 |
| Archit. Coating | 0.6759        |               |               |                    |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |               |                 | 0.0000          |               |     | 0.0000          |
| Off-Road        | 0.2664        | 1.8354        | 1.8413        | 2.9700e-003        |               | 0.1288        | 0.1288        |                | 0.1288        | 0.1288        | 0.0000        | 281.4481        | 281.4481        | 0.0238        |     | 282.0423        |
| <b>Total</b>    | <b>0.9423</b> | <b>1.8354</b> | <b>1.8413</b> | <b>2.9700e-003</b> |               | <b>0.1288</b> | <b>0.1288</b> |                | <b>0.1288</b> | <b>0.1288</b> | <b>0.0000</b> | <b>281.4481</b> | <b>281.4481</b> | <b>0.0238</b> |     | <b>282.0423</b> |

Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Winter

**3.7 Architectural Coating - 2019**

**Mitigated Construction Off-Site**

|              | ROG           | NOx           | CO            | SO2                | Fugitive PM10 | Exhaust PM10       | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total   | Bio- CO2 | NBio- CO2       | Total CO2       | CH4           | N2O | CO2e            |
|--------------|---------------|---------------|---------------|--------------------|---------------|--------------------|---------------|----------------|--------------------|---------------|----------|-----------------|-----------------|---------------|-----|-----------------|
| Category     | lb/day        |               |               |                    |               |                    |               |                |                    |               | lb/day   |                 |                 |               |     |                 |
| Hauling      | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Vendor       | 0.0000        | 0.0000        | 0.0000        | 0.0000             | 0.0000        | 0.0000             | 0.0000        | 0.0000         | 0.0000             | 0.0000        |          | 0.0000          | 0.0000          | 0.0000        |     | 0.0000          |
| Worker       | 0.2804        | 0.2069        | 2.0191        | 4.7000e-003        | 0.4945        | 3.5200e-003        | 0.4980        | 0.1312         | 3.2500e-003        | 0.1344        |          | 467.3501        | 467.3501        | 0.0148        |     | 467.7209        |
| <b>Total</b> | <b>0.2804</b> | <b>0.2069</b> | <b>2.0191</b> | <b>4.7000e-003</b> | <b>0.4945</b> | <b>3.5200e-003</b> | <b>0.4980</b> | <b>0.1312</b>  | <b>3.2500e-003</b> | <b>0.1344</b> |          | <b>467.3501</b> | <b>467.3501</b> | <b>0.0148</b> |     | <b>467.7209</b> |

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**



Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Winter

|             | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O | CO2e   |
|-------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|-----|--------|
| Category    | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |           |           |        |     |        |
| Mitigated   | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 |     | 0.0000 |
| Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000        | 0.0000       | 0.0000     | 0.0000         | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 |     | 0.0000 |

4.2 Trip Summary Information

| Land Use    | Average Daily Trip Rate |          |        | Unmitigated | Mitigated  |
|-------------|-------------------------|----------|--------|-------------|------------|
|             | Weekday                 | Saturday | Sunday | Annual VMT  | Annual VMT |
| City Park   | 0.00                    | 0.00     | 0.00   |             |            |
| Parking Lot | 0.00                    | 0.00     | 0.00   |             |            |
| Total       | 0.00                    | 0.00     | 0.00   |             |            |

4.3 Trip Type Information

| Land Use    | Miles      |            |             | Trip %     |            |             | Trip Purpose % |          |         |
|-------------|------------|------------|-------------|------------|------------|-------------|----------------|----------|---------|
|             | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary        | Diverted | Pass-by |
| City Park   | 0.00       | 0.00       | 0.00        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |
| Parking Lot | 0.00       | 0.00       | 0.00        | 0.00       | 0.00       | 0.00        | 0              | 0        | 0       |

4.4 Fleet Mix

| Land Use    | LDA      | LDT1     | LDT2     | MDV      | LHD1     | LHD2     | MHD      | HHD      | OBUS     | UBUS     | MCY      | SBUS     | MH       |
|-------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| City Park   | 0.551662 | 0.040953 | 0.203778 | 0.123762 | 0.021802 | 0.005583 | 0.018466 | 0.022043 | 0.002076 | 0.002280 | 0.006004 | 0.000618 | 0.000971 |
| Parking Lot | 0.551662 | 0.040953 | 0.203778 | 0.123762 | 0.021802 | 0.005583 | 0.018466 | 0.022043 | 0.002076 | 0.002280 | 0.006004 | 0.000618 | 0.000971 |

Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Winter

**5.0 Energy Detail**

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Historical Energy Use: N

**5.1 Mitigation Measures Energy**

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|                        | ROG    | NOx    | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4    | N2O    | CO2e   |
|------------------------|--------|--------|--------|--------|---------------|--------------|------------|----------------|---------------|-------------|----------|-----------|-----------|--------|--------|--------|
| Category               | lb/day |        |        |        |               |              |            |                |               |             | lb/day   |           |           |        |        |        |
| NaturalGas Mitigated   | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |
| NaturalGas Unmitigated | 0.0000 | 0.0000 | 0.0000 | 0.0000 |               | 0.0000       | 0.0000     |                | 0.0000        | 0.0000      |          | 0.0000    | 0.0000    | 0.0000 | 0.0000 | 0.0000 |

Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Winter

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

|              | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use     | kBTU/yr        | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| City Park    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**Mitigated**

|              | NaturalGas Use | ROG           | NOx           | CO            | SO2           | Fugitive PM10 | Exhaust PM10  | PM10 Total    | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total   | Bio- CO2 | NBio- CO2     | Total CO2     | CH4           | N2O           | CO2e          |
|--------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|---------------|---------------|----------|---------------|---------------|---------------|---------------|---------------|
| Land Use     | kBTU/yr        | lb/day        |               |               |               |               |               |               |                |               |               | lb/day   |               |               |               |               |               |
| City Park    | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| Parking Lot  | 0              | 0.0000        | 0.0000        | 0.0000        | 0.0000        |               | 0.0000        | 0.0000        |                | 0.0000        | 0.0000        |          | 0.0000        | 0.0000        | 0.0000        | 0.0000        | 0.0000        |
| <b>Total</b> |                | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |               | <b>0.0000</b> | <b>0.0000</b> |                | <b>0.0000</b> | <b>0.0000</b> |          | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> | <b>0.0000</b> |

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Winter

|             | ROG    | NOx         | CO     | SO2    | Fugitive PM10 | Exhaust PM10 | PM10 Total  | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4         | N2O | CO2e   |
|-------------|--------|-------------|--------|--------|---------------|--------------|-------------|----------------|---------------|-------------|----------|-----------|-----------|-------------|-----|--------|
| Category    | lb/day |             |        |        |               |              |             |                |               |             | lb/day   |           |           |             |     |        |
| Mitigated   | 0.1048 | 3.9000e-004 | 0.0427 | 0.0000 |               | 1.5000e-004  | 1.5000e-004 |                | 1.5000e-004   | 1.5000e-004 |          | 0.0909    | 0.0909    | 2.4000e-004 |     | 0.0970 |
| Unmitigated | 0.1048 | 3.9000e-004 | 0.0427 | 0.0000 |               | 1.5000e-004  | 1.5000e-004 |                | 1.5000e-004   | 1.5000e-004 |          | 0.0909    | 0.0909    | 2.4000e-004 |     | 0.0970 |

6.2 Area by SubCategory

Unmitigated

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.0122        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 0.0886        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 4.0100e-003   | 3.9000e-004        | 0.0427        | 0.0000        |               | 1.5000e-004        | 1.5000e-004        |                | 1.5000e-004        | 1.5000e-004        |          | 0.0909        | 0.0909        | 2.4000e-004        |     | 0.0970        |
| <b>Total</b>          | <b>0.1048</b> | <b>3.9000e-004</b> | <b>0.0427</b> | <b>0.0000</b> |               | <b>1.5000e-004</b> | <b>1.5000e-004</b> |                | <b>1.5000e-004</b> | <b>1.5000e-004</b> |          | <b>0.0909</b> | <b>0.0909</b> | <b>2.4000e-004</b> |     | <b>0.0970</b> |

Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Winter

**6.2 Area by SubCategory**

**Mitigated**

|                       | ROG           | NOx                | CO            | SO2           | Fugitive PM10 | Exhaust PM10       | PM10 Total         | Fugitive PM2.5 | Exhaust PM2.5      | PM2.5 Total        | Bio- CO2 | NBio- CO2     | Total CO2     | CH4                | N2O | CO2e          |
|-----------------------|---------------|--------------------|---------------|---------------|---------------|--------------------|--------------------|----------------|--------------------|--------------------|----------|---------------|---------------|--------------------|-----|---------------|
| SubCategory           | lb/day        |                    |               |               |               |                    |                    |                |                    |                    | lb/day   |               |               |                    |     |               |
| Architectural Coating | 0.0122        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Consumer Products     | 0.0886        |                    |               |               |               | 0.0000             | 0.0000             |                | 0.0000             | 0.0000             |          |               | 0.0000        |                    |     | 0.0000        |
| Landscaping           | 4.0100e-003   | 3.9000e-004        | 0.0427        | 0.0000        |               | 1.5000e-004        | 1.5000e-004        |                | 1.5000e-004        | 1.5000e-004        |          | 0.0909        | 0.0909        | 2.4000e-004        |     | 0.0970        |
| <b>Total</b>          | <b>0.1048</b> | <b>3.9000e-004</b> | <b>0.0427</b> | <b>0.0000</b> |               | <b>1.5000e-004</b> | <b>1.5000e-004</b> |                | <b>1.5000e-004</b> | <b>1.5000e-004</b> |          | <b>0.0909</b> | <b>0.0909</b> | <b>2.4000e-004</b> |     | <b>0.0970</b> |

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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| Equipment Type | Number | Hours/Day | Days/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|-----------|-------------|-------------|-----------|
|----------------|--------|-----------|-----------|-------------|-------------|-----------|

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

Christian Brothers High School Sports Complex Renovation Project - Sacramento Metropolitan AQMD Air District, Winter

| Equipment Type | Number | Hours/Day | Hours/Year | Horse Power | Load Factor | Fuel Type |
|----------------|--------|-----------|------------|-------------|-------------|-----------|
|----------------|--------|-----------|------------|-------------|-------------|-----------|

**Boilers**

| Equipment Type | Number | Heat Input/Day | Heat Input/Year | Boiler Rating | Fuel Type |
|----------------|--------|----------------|-----------------|---------------|-----------|
|----------------|--------|----------------|-----------------|---------------|-----------|

**User Defined Equipment**

| Equipment Type | Number |
|----------------|--------|
|----------------|--------|

**11.0 Vegetation**

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**Christian Brothers High School Sports Complex Renovation Project**  
**Sacramento Metropolitan AQMD Air District, Mitigation Report**

**Construction Mitigation Summary**

| Phase                 | ROG  | NOx  | CO   | SO2  | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-----------------------|------|------|------|------|--------------|---------------|----------|-----------|-----------|------|------|------|
| Percent Reduction     |      |      |      |      |              |               |          |           |           |      |      |      |
| Architectural Coating | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Building Construction | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Demolition            | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Grading               | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Paving                | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Site Preparation      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |

**OFFROAD Equipment Mitigation**

| Equipment Type            | Fuel Type | Tier      | Number Mitigated | Total Number of Equipment | DPF       | Oxidation Catalyst |
|---------------------------|-----------|-----------|------------------|---------------------------|-----------|--------------------|
| Air Compressors           | Diesel    | No Change | 0                | 1                         | No Change | 0.00               |
| Excavators                | Diesel    | No Change | 0                | 5                         | No Change | 0.00               |
| Concrete/Industrial Saws  | Diesel    | No Change | 0                | 1                         | No Change | 0.00               |
| Cranes                    | Diesel    | No Change | 0                | 1                         | No Change | 0.00               |
| Forklifts                 | Diesel    | No Change | 0                | 3                         | No Change | 0.00               |
| Graders                   | Diesel    | No Change | 0                | 1                         | No Change | 0.00               |
| Pavers                    | Diesel    | No Change | 0                | 2                         | No Change | 0.00               |
| Rollers                   | Diesel    | No Change | 0                | 2                         | No Change | 0.00               |
| Rubber Tired Dozers       | Diesel    | No Change | 0                | 6                         | No Change | 0.00               |
| Tractors/Loaders/Backhoes | Diesel    | No Change | 0                | 9                         | No Change | 0.00               |
| Generator Sets            | Diesel    | No Change | 0                | 1                         | No Change | 0.00               |
| Paving Equipment          | Diesel    | No Change | 0                | 2                         | No Change | 0.00               |
| Scrapers                  | Diesel    | No Change | 0                | 2                         | No Change | 0.00               |
| Welders                   | Diesel    | No Change | 0                | 1                         | No Change | 0.00               |



| Equipment Type            | ROG          | NOx          | CO           | SO2          | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2          | NBio- CO2    | Total CO2    | CH4          | N2O          | CO2e         |
|---------------------------|--------------|--------------|--------------|--------------|--------------|---------------|-------------------|--------------|--------------|--------------|--------------|--------------|
| Unmitigated tons/yr       |              |              |              |              |              |               | Unmitigated mt/yr |              |              |              |              |              |
| Air Compressors           | 8.79000E-003 | 6.05700E-002 | 6.07600E-002 | 1.00000E-004 | 4.25000E-003 | 4.25000E-003  | 0.00000E+000      | 8.42574E+000 | 8.42574E+000 | 7.10000E-004 | 0.00000E+000 | 8.44353E+000 |
| Concrete/Industrial Saws  | 4.62000E-003 | 3.58900E-002 | 3.70200E-002 | 6.00000E-005 | 2.29000E-003 | 2.29000E-003  | 0.00000E+000      | 5.37657E+000 | 5.37657E+000 | 3.80000E-004 | 0.00000E+000 | 5.38603E+000 |
| Cranes                    | 1.45500E-002 | 1.73450E-001 | 6.62100E-002 | 1.70000E-004 | 7.35000E-003 | 6.76000E-003  | 0.00000E+000      | 1.49628E+001 | 1.49628E+001 | 4.73000E-003 | 0.00000E+000 | 1.50812E+001 |
| Excavators                | 1.30400E-002 | 1.34090E-001 | 1.63160E-001 | 2.60000E-004 | 6.47000E-003 | 5.95000E-003  | 0.00000E+000      | 2.31843E+001 | 2.31843E+001 | 7.34000E-003 | 0.00000E+000 | 2.33677E+001 |
| Forklifts                 | 1.58300E-002 | 1.41400E-001 | 1.18220E-001 | 1.50000E-004 | 1.09500E-002 | 1.00800E-002  | 0.00000E+000      | 1.35903E+001 | 1.35903E+001 | 4.30000E-003 | 0.00000E+000 | 1.36978E+001 |
| Generator Sets            | 1.46500E-002 | 1.24670E-001 | 1.22860E-001 | 2.20000E-004 | 7.45000E-003 | 7.45000E-003  | 0.00000E+000      | 1.86519E+001 | 1.86519E+001 | 1.18000E-003 | 0.00000E+000 | 1.86814E+001 |
| Graders                   | 4.87000E-003 | 6.58000E-002 | 1.83800E-002 | 7.00000E-005 | 2.11000E-003 | 1.94000E-003  | 0.00000E+000      | 5.96589E+000 | 5.96589E+000 | 1.89000E-003 | 0.00000E+000 | 6.01308E+000 |
| Pavers                    | 7.90000E-004 | 8.43000E-003 | 8.69000E-003 | 1.00000E-005 | 4.10000E-004 | 3.80000E-004  | 0.00000E+000      | 1.23905E+000 | 1.23905E+000 | 4.00000E-004 | 0.00000E+000 | 1.24907E+000 |
| Paving Equipment          | 6.20000E-004 | 6.42000E-003 | 7.60000E-003 | 1.00000E-005 | 3.20000E-004 | 3.00000E-004  | 0.00000E+000      | 1.07373E+000 | 1.07373E+000 | 3.50000E-004 | 0.00000E+000 | 1.08241E+000 |
| Rollers                   | 6.20000E-004 | 6.24000E-003 | 5.68000E-003 | 1.00000E-005 | 4.00000E-004 | 3.70000E-004  | 0.00000E+000      | 6.91460E-001 | 6.91460E-001 | 2.20000E-004 | 0.00000E+000 | 6.97050E-001 |
| Rubber Tired Dozers       | 6.97800E-002 | 7.42580E-001 | 2.63470E-001 | 5.20000E-004 | 3.62100E-002 | 3.33100E-002  | 0.00000E+000      | 4.71680E+001 | 4.71680E+001 | 1.49200E-002 | 0.00000E+000 | 4.75411E+001 |
| Scrapers                  | 2.13100E-002 | 2.58280E-001 | 1.61230E-001 | 3.00000E-004 | 1.01200E-002 | 9.31000E-003  | 0.00000E+000      | 2.72122E+001 | 2.72122E+001 | 8.61000E-003 | 0.00000E+000 | 2.74274E+001 |
| Tractors/Loaders/Backhoes | 3.46000E-002 | 3.47390E-001 | 3.42240E-001 | 4.60000E-004 | 2.31900E-002 | 2.13400E-002  | 0.00000E+000      | 4.14660E+001 | 4.14660E+001 | 1.31200E-002 | 0.00000E+000 | 4.17940E+001 |
| Welders                   | 1.27100E-002 | 5.36000E-002 | 5.96400E-002 | 8.00000E-005 | 3.29000E-003 | 3.29000E-003  | 0.00000E+000      | 6.21128E+000 | 6.21128E+000 | 1.04000E-003 | 0.00000E+000 | 6.23724E+000 |

| Equipment Type             | ROG          | NOx          | CO           | SO2          | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2        | NBio- CO2    | Total CO2    | CH4          | N2O          | CO2e         |
|----------------------------|--------------|--------------|--------------|--------------|--------------|---------------|-----------------|--------------|--------------|--------------|--------------|--------------|
| Mitigated tons/yr          |              |              |              |              |              |               | Mitigated mt/yr |              |              |              |              |              |
| Air Compressors            | 8.79000E-003 | 6.05700E-002 | 6.07600E-002 | 1.00000E-004 | 4.25000E-003 | 4.25000E-003  | 0.00000E+000    | 8.42573E+000 | 8.42573E+000 | 7.10000E-004 | 0.00000E+000 | 8.44352E+000 |
| Concrete/Industrial Saws   | 4.62000E-003 | 3.58900E-002 | 3.70200E-002 | 6.00000E-005 | 2.29000E-003 | 2.29000E-003  | 0.00000E+000    | 5.37657E+000 | 5.37657E+000 | 3.80000E-004 | 0.00000E+000 | 5.38603E+000 |
| Cranes                     | 1.45500E-002 | 1.73450E-001 | 6.62100E-002 | 1.70000E-004 | 7.35000E-003 | 6.76000E-003  | 0.00000E+000    | 1.49628E+001 | 1.49628E+001 | 4.73000E-003 | 0.00000E+000 | 1.50812E+001 |
| Excavators                 | 1.30400E-002 | 1.34090E-001 | 1.63160E-001 | 2.60000E-004 | 6.47000E-003 | 5.95000E-003  | 0.00000E+000    | 2.31842E+001 | 2.31842E+001 | 7.34000E-003 | 0.00000E+000 | 2.33676E+001 |
| Forklifts                  | 1.58300E-002 | 1.41400E-001 | 1.18220E-001 | 1.50000E-004 | 1.09500E-002 | 1.00800E-002  | 0.00000E+000    | 1.35903E+001 | 1.35903E+001 | 4.30000E-003 | 0.00000E+000 | 1.36978E+001 |
| Generator Sets             | 1.46500E-002 | 1.24670E-001 | 1.22860E-001 | 2.20000E-004 | 7.45000E-003 | 7.45000E-003  | 0.00000E+000    | 1.86518E+001 | 1.86518E+001 | 1.18000E-003 | 0.00000E+000 | 1.86814E+001 |
| Graders                    | 4.87000E-003 | 6.58000E-002 | 1.83800E-002 | 7.00000E-005 | 2.11000E-003 | 1.94000E-003  | 0.00000E+000    | 5.96589E+000 | 5.96589E+000 | 1.89000E-003 | 0.00000E+000 | 6.01307E+000 |
| Pavers                     | 7.90000E-004 | 8.43000E-003 | 8.69000E-003 | 1.00000E-005 | 4.10000E-004 | 3.80000E-004  | 0.00000E+000    | 1.23905E+000 | 1.23905E+000 | 4.00000E-004 | 0.00000E+000 | 1.24906E+000 |
| Paving Equipment           | 6.20000E-004 | 6.42000E-003 | 7.60000E-003 | 1.00000E-005 | 3.20000E-004 | 3.00000E-004  | 0.00000E+000    | 1.07373E+000 | 1.07373E+000 | 3.50000E-004 | 0.00000E+000 | 1.08241E+000 |
| Rollers                    | 6.20000E-004 | 6.24000E-003 | 5.68000E-003 | 1.00000E-005 | 4.00000E-004 | 3.70000E-004  | 0.00000E+000    | 6.91450E+001 | 6.91450E+001 | 2.20000E-004 | 0.00000E+000 | 6.97050E+001 |
| Rubber Tired Dozers        | 6.97800E-002 | 7.42580E-001 | 2.63470E-001 | 5.20000E-004 | 3.62100E-002 | 3.33100E-002  | 0.00000E+000    | 4.71680E+001 | 4.71680E+001 | 1.49200E-002 | 0.00000E+000 | 4.75411E+001 |
| Scrapers                   | 2.13100E-002 | 2.58280E-001 | 1.61230E-001 | 3.00000E-004 | 1.01200E-002 | 9.31000E-003  | 0.00000E+000    | 2.72121E+001 | 2.72121E+001 | 8.61000E-003 | 0.00000E+000 | 2.74274E+001 |
| Tractors/Loaders/Balckhoes | 3.46000E-002 | 3.47390E-001 | 3.42240E-001 | 4.60000E-004 | 2.31900E-002 | 2.13400E-002  | 0.00000E+000    | 4.14659E+001 | 4.14659E+001 | 1.31200E-002 | 0.00000E+000 | 4.17939E+001 |
| Welders                    | 1.27100E-002 | 5.36000E-002 | 5.96400E-002 | 8.00000E-005 | 3.29000E-003 | 3.29000E-003  | 0.00000E+000    | 6.21127E+000 | 6.21127E+000 | 1.04000E-003 | 0.00000E+000 | 6.23723E+000 |

| Equipment Type             | ROG          | NOx          | CO           | SO2          | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2     | NBio- CO2    | Total CO2    | CH4          | N2O          | CO2e         |
|----------------------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Percent Reduction          |              |              |              |              |              |               |              |              |              |              |              |              |
| Air Compressors            | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 1.18684E-006 | 1.18684E-006 | 0.00000E+000 | 0.00000E+000 | 1.18434E-006 |
| Concrete/Industrial Saws   | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Cranes                     | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 1.33664E-006 | 1.33664E-006 | 0.00000E+000 | 0.00000E+000 | 1.32616E-006 |
| Excavators                 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 1.29398E-006 | 1.29398E-006 | 0.00000E+000 | 0.00000E+000 | 1.28383E-006 |
| Forklifts                  | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 1.47164E-006 | 1.47164E-006 | 0.00000E+000 | 0.00000E+000 | 1.46009E-006 |
| Generator Sets             | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 1.60842E-006 | 1.60842E-006 | 0.00000E+000 | 0.00000E+000 | 1.07058E-006 |
| Graders                    | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 1.66304E-006 |
| Pavers                     | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 8.00596E-006 |
| Paving Equipment           | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Rollers                    | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 1.44622E-005 | 1.44622E-005 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 |
| Rubber Tired Dozers        | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 1.27205E-006 | 1.27205E-006 | 0.00000E+000 | 0.00000E+000 | 1.26207E-006 |
| Scrapers                   | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 1.46993E-006 | 1.46993E-006 | 0.00000E+000 | 0.00000E+000 | 1.45839E-006 |
| Tractors/Loaders/Balckhoes | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 1.20581E-006 | 1.20581E-006 | 0.00000E+000 | 0.00000E+000 | 1.19635E-006 |
| Welders                    | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000 | 0.00000E+000  | 0.00000E+000 | 1.60997E-006 | 1.60997E-006 | 0.00000E+000 | 0.00000E+000 | 1.60327E-006 |

**Fugitive Dust Mitigation**

Yes/No Mitigation Measure Mitigation Input Mitigation Input Mitigation Input

|    |  |                |  |                 |  |                     |
|----|--|----------------|--|-----------------|--|---------------------|
| No | Soil Stabilizer for unpaved Roads      | PM10 Reduction |  | PM2.5 Reduction |  |                     |
| No | Replace Ground Cover of Area Disturbed | PM10 Reduction |  | PM2.5 Reduction |  |                     |
| No | Water Exposed Area                     | PM10 Reduction |  | PM2.5 Reduction |  | Frequency (per day) |

|    |                         |                    |      |                     |      |  |  |
|----|-------------------------|--------------------|------|---------------------|------|--|--|
| No | Unpaved Road Mitigation | Moisture Content % |      | Vehicle Speed (mph) | 0.00 |  |  |
| No | Clean Paved Road        | % PM Reduction     | 0.00 |                     |      |  |  |

| Phase                 | Source        | Unmitigated |       | Mitigated |       | Percent Reduction |       |
|-----------------------|---------------|-------------|-------|-----------|-------|-------------------|-------|
|                       |               | PM10        | PM2.5 | PM10      | PM2.5 | PM10              | PM2.5 |
| Architectural Coating | Fugitive Dust | 0.00        | 0.00  | 0.00      | 0.00  | 0.00              | 0.00  |
| Architectural Coating | Roads         | 0.02        | 0.00  | 0.02      | 0.00  | 0.00              | 0.00  |
| Building Construction | Fugitive Dust | 0.00        | 0.00  | 0.00      | 0.00  | 0.00              | 0.00  |
| Building Construction | Roads         | 0.10        | 0.03  | 0.10      | 0.03  | 0.00              | 0.00  |
| Demolition            | Fugitive Dust | 0.02        | 0.00  | 0.02      | 0.00  | 0.00              | 0.00  |
| Demolition            | Roads         | 0.00        | 0.00  | 0.00      | 0.00  | 0.00              | 0.00  |
| Grading               | Fugitive Dust | 0.06        | 0.03  | 0.06      | 0.03  | 0.00              | 0.00  |
| Grading               | Roads         | 0.00        | 0.00  | 0.00      | 0.00  | 0.00              | 0.00  |
| Paving                | Fugitive Dust | 0.00        | 0.00  | 0.00      | 0.00  | 0.00              | 0.00  |
| Paving                | Roads         | 0.00        | 0.00  | 0.00      | 0.00  | 0.00              | 0.00  |
| Site Preparation      | Fugitive Dust | 0.19        | 0.10  | 0.19      | 0.10  | 0.00              | 0.00  |
| Site Preparation      | Roads         | 0.00        | 0.00  | 0.00      | 0.00  | 0.00              | 0.00  |

**Operational Percent Reduction Summary**

| Category              | ROG  | NOx  | CO   | SO2  | Exhaust PM10 | Exhaust PM2.5 | Bio- CO2 | NBio- CO2 | Total CO2 | CH4  | N2O  | CO2e |
|-----------------------|------|------|------|------|--------------|---------------|----------|-----------|-----------|------|------|------|
| Percent Reduction     |      |      |      |      |              |               |          |           |           |      |      |      |
| Architectural Coating | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Consumer Products     | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Electricity           | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Hearth                | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Landscaping           | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Mobile                | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Natural Gas           | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Water Indoor          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |
| Water Outdoor         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00         | 0.00          | 0.00     | 0.00      | 0.00      | 0.00 | 0.00 | 0.00 |

**Operational Mobile Mitigation**

Project Setting:

| Mitigation | Category | Measure                             | % Reduction | Input Value 1 | Input Value 2 | Input Value |
|------------|----------|-------------------------------------|-------------|---------------|---------------|-------------|
| No         | Land Use | Increase Density                    | 0.00        |               |               |             |
| No         | Land Use | Increase Diversity                  | 0.05        | 0.23          |               |             |
| No         | Land Use | Improve Walkability Design          | 0.00        |               |               |             |
| No         | Land Use | Improve Destination Accessibility   | 0.00        |               |               |             |
| No         | Land Use | Increase Transit Accessibility      | 0.25        |               |               |             |
| No         | Land Use | Integrate Below Market Rate Housing | 0.00        |               |               |             |
|            | Land Use | Land Use SubTotal                   | 0.00        |               |               |             |

|    |                           |  |      |  |      |
|----|---------------------------|--|------|--|------|
| No | Neighborhood Enhancements | Improve Pedestrian Network                             |      |  |      |
| No | Neighborhood Enhancements | Provide Traffic Calming Measures                       |      |  |      |
| No | Neighborhood Enhancements | Implement NEV Network                                  | 0.00 |  |      |
|    | Neighborhood Enhancements | Neighborhood Enhancements Subtotal                     | 0.00 |  |      |
| No | Parking Policy Pricing    | Limit Parking Supply                                   | 0.00 |  |      |
| No | Parking Policy Pricing    | Unbundle Parking Costs                                 | 0.00 |  |      |
| No | Parking Policy Pricing    | On-street Market Pricing                               | 0.00 |  |      |
|    | Parking Policy Pricing    | Parking Policy Pricing Subtotal                        | 0.00 |  |      |
| No | Transit Improvements      | Provide BRT System                                     | 0.00 |  |      |
| No | Transit Improvements      | Expand Transit Network                                 | 0.00 |  |      |
| No | Transit Improvements      | Increase Transit Frequency                             | 0.00 |  |      |
|    | Transit Improvements      | Transit Improvements Subtotal                          | 0.00 |  |      |
|    |                           | Land Use and Site Enhancement Subtotal                 | 0.00 |  |      |
| No | Commute                   | Implement Trip Reduction Program                       |      |  |      |
| No | Commute                   | Transit Subsidy  |      |  |      |
| No | Commute                   | Implement Employee Parking "Cash Out"                  |      |  |      |
| No | Commute                   | Workplace Parking Charge                               |      |  |      |
| No | Commute                   | Encourage Telecommuting and Alternative Work Schedules | 0.00 |  |      |
| No | Commute                   | Market Commute Trip Reduction Option                   | 0.00 |  |      |
| No | Commute                   | Employee Vanpool/Shuttle                               | 0.00 |  | 2.00 |
| No | Commute                   | Provide Ride Sharing Program                           |      |  |      |
|    | Commute                   | Commute Subtotal                                       | 0.00 |  |      |

|    |             |                              |      |  |  |
|----|-------------|------------------------------|------|--|--|
| No | School Trip | Implement School Bus Program | 0.00 |  |  |
|    |             | Total VMT Reduction          | 0.00 |  |  |

**Area Mitigation**

| Measure Implemented | Mitigation Measure                           | Input Value |
|---------------------|--|-------------|
| No                  | Only Natural Gas Hearth                      |             |
| No                  | No Hearth                                    |             |
| No                  | Use Low VOC Cleaning Supplies                |             |
| No                  | Use Low VOC Paint (Residential Interior)     | 100.00      |
| No                  | Use Low VOC Paint (Residential Exterior)     | 100.00      |
| No                  | Use Low VOC Paint (Non-residential Interior) | 100.00      |
| No                  | Use Low VOC Paint (Non-residential Exterior) | 100.00      |
| No                  | Use Low VOC Paint (Parking)                  | 100.00      |
| No                  | % Electric Lawnmower                         |             |
| No                  | % Electric Leafblower                        |             |
| No                  | % Electric Chainsaw                          |             |

**Energy Mitigation Measures**

| Measure Implemented | Mitigation Measure               | Input Value 1 | Input Value 2 |
|---------------------|----------------------------------|---------------|---------------|
| No                  | Exceed Title 24                  |               |               |
| No                  | Install High Efficiency Lighting |               |               |
| No                  | On-site Renewable                |               |               |

| Appliance Type | Land Use Subtype | % Improvement |
|----------------|------------------|---------------|
| ClothWasher    |                  | 30.00         |
| DishWasher     |                  | 15.00         |
| Fan            |                  | 50.00         |
| Refrigerator   |                  | 15.00         |

**Water Mitigation Measures**

| Measure Implemented | Mitigation Measure                     | Input Value 1 | Input Value 2 |
|---------------------|--|---------------|---------------|
| No                  | Apply Water Conservation on Strategy   |               |               |
| No                  | Use Reclaimed Water                    |               |               |
| No                  | Use Grey Water                         |               |               |
| No                  | Install low-flow bathroom faucet       | 32.00         |               |
| No                  | Install low-flow Kitchen faucet        | 18.00         |               |
| No                  | Install low-flow Toilet                | 20.00         |               |
| No                  | Install low-flow Shower                | 20.00         |               |
| No                  | Turf Reduction                         |               |               |
| No                  | Use Water Efficient Irrigation Systems | 6.10          |               |
| No                  | Water Efficient Landscape              |               |               |

**Solid Waste Mitigation**

| Mitigation Measures | Input Value |
|---------------------|-------------|
|---------------------|-------------|



|  |  |
|--|--|
| Institute Recycling and Composting Services<br>Percent Reduction in Waste Disposed |  |
|--|--|