City of
SACRAMENTO

COMMUNITY DEVELOPMENT
DEPARTMENT

ENVIRONMENTAL PLANNING
SERVICES

300 Richards Boulevard
Third Floor
Sacramento, CA 95811

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:

Harry Renfree Field Renovations Project at Del Paso Regional Park (L19-3000-02) The proposed project includes the replacement of the current Renfree Field baseball facilities with two side-by-side baseball fields (Field 1 and Practice Field 2) with overlapping outfield areas and a new soccer field. Baseball Field 1 would be located on roughly the same footprint as the existing Renfree Field, would be oriented similarly, and would have 30-foot-tall backstop fencing. Practice Field 2 and its 30-foot-tall backstop fencing would be located on the southeast portion of the site, north of the play structure and eastern parking lot and adjacent to the existing walking paths/equestrian trails. A 210-foot-by-330-foot soccer field would be striped in the outfield area(s) of the proposed new ballfields on the north portion of the existing Renfree Field. Infrastructure associated with the existing Renfree Field such as bleachers, bullpens, shaded dugouts, lighting, and connecting sidewalks would be replaced. The western parking lot would be redeveloped with a basketball court and four pickleball courts on its north portion resulting in the loss of approximately 50 parking spaces.

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 pursuant to the Environmental Quality Act of 1970 (Sections 21000, et seq., Public Resources Code of the State of California).

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) adopted by the City of Sacramento, 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, 3rd Floor, Sacramento, CA 95811 from 9:00 a.m. to 4:00 p.m. (or 8:00 a.m. to 5:00 p.m. with prior arrangement). This document is also available on the City's EIR Webpage at:
http://www.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports

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

By: Scott Johnson

Date: September 1, 2023

City of SACRAMENTO

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

HARRY RENFREE FIELD RENOVATIONS PROJECT
AT DEL PASO REGIONAL PARK

CITY OF SACRAMENTO, CALIFORNIA



SEPTEMBER 2023

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

HARRY RENFREE FIELD RENOVATIONS PROJECT AT DEL PASO REGIONAL PARK

CITY OF SACRAMENTO, CALIFORNIA

SUBMITTED TO:
CITY OF SACRAMENTO
COMMUNITY DEVELOPMENT DEPARTMENT
300 RICHARDS BOULEVARD 3RD FLOOR
SACRAMENTO, CALIFORNIA 95811

PREPARED BY:
SWCA ENVIRONMENTAL CONSULTANTS
6355 RIVERSIDE BOULEVARD, SUITE C
SACRAMENTO, CALIFORNIA 95831

PROJECT NO. L19-3000-02

SEPTEMBER 2023

TABLE OF CONTENTS

Section I - Background 2

Section II - Project Description 4
Introduction 4
Project Location 4
Surrounding Land Uses 4
Existing Conditions 6
Proposed Project Characteristics 9
Required Discretionary Approvals 16

Section III – Environmental Checklist and Discussion 17
Introduction 17
Aesthetics 20
Air Quality 23
Biological Resources 36
Cultural Resources 46
Energy 54
Geology and Soils 59
Greenhouse Gas Emissions 62
Hazards 66
Hydrology and Water Quality 70
Noise 74
Public Services 81
Recreation 84
Transportation and Circulation 86
Tribal Cultural Resources 90
Utilities and Service Systems 98
Mandatory Findings of Significance 102

Section IV - Environmental Factors Potentially Affected 104

Section V - Determination 105

References Cited 106

APPENDICES

Appendix A. Proposed Project Plans – Preliminary (75 Percent) Construction Plans for Renfree Field Renovation, Del Paso Regional Park
Appendix B. Air Quality and Greenhouse Gas Emissions Modeling Memo
Appendix C. Biological Resources Evaluation
Appendix D. Cultural Resources Technical Report
Appendix E. Geotechnical Investigation

LIST OF FIGURES

Figure 1: Project Vicinity 5
Figure 2: Aerial Photograph of Project Site. 7
Figure 3: Existing Site Plan. 8
Figure 4: Proposed Site Plan. 10
Figure 5: Proposed Landscaping Plan. 13
Figure 6: Proposed Excavation Plan. 14

LIST OF TABLES

Table 1: Construction Duration 15
Table 2: Sources and Health Effects of Criteria Air Pollutants 25
Table 3: SMAQMD Thresholds of Significance for Ozone Precursors 28
Table 4: Maximum Unmitigated Project Construction NO_X Emissions 29
Table 5: Maximum Project Operational NO_X and ROG Emissions 30
Table 6: SMAQMD Thresholds of Significance for PM_{10} and $PM_{2.5}$ 31
Table 7: Maximum Unmitigated Project Emissions of PM_{10} and $PM_{2.5}$ 32
Table 8: SMAQMD Thresholds of Significance for Greenhouse Gases 64
Table 9: Maximum Unmitigated Project Construction Greenhouse Gas Emissions 64

City of SACRAMENTO

Harry Renfree Field Renovations Project at Del Paso Regional Park (Project No. L19-3000-02)

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION FOR ANTICIPATED SUBSEQUENT PROJECTS UNDER THE 2035 GENERAL PLAN MASTER EIR

This Initial Study has been prepared by the City of Sacramento Community Development Department, 300 Richards Boulevard, 3rd Floor, Sacramento, CA 95811, pursuant to the California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000 et seq.), State CEQA Guidelines (Title 14 Section 15000 et seq. of the California Code of Regulations), and Sacramento Local Environmental Regulations (Resolution 91-892) adopted by the City of Sacramento.

ORGANIZATION OF THE INITIAL STUDY

This Initial Study is organized into the following sections:

SECTION I - BACKGROUND: Provides summary background information about the project name, location, and sponsor, and the date this Initial Study was completed.

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

SECTION III - ENVIRONMENTAL CHECKLIST AND DISCUSSION: Reviews the proposed project and states whether the project would have additional significant environmental effects (project-specific effects) that were not evaluated in the Master Environmental Impact Report for the *Sacramento 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 have been consulted in the preparation of the Initial Study.

APPENDICES: Appends technical information that was referenced as attached in the preparation of the Initial Study.

SECTION I - BACKGROUND

Project Name and File Number: Harry Renfree Field Renovations Project at Del Paso Regional Park (Project No. L19-3000-02)

Project Location: 3615 Auburn Boulevard
Sacramento, CA 95821

Project Applicant: City of Sacramento, Youth, Parks & Community Enrichment
Sacramento, CA 95811
(916) 808-7633

Project Planner: Dennis S. Day, Associate Landscape Architect
City of Sacramento, Youth, Parks & Community Enrichment
Sacramento, CA 95811
(916) 808-7633
DDay@cityofsacramento.org

Environmental Planner: Ron Bess, Associate Planner
City of Sacramento, Community Development Department
Environmental Planning Services
300 Richards Boulevard, 3rd Floor
Sacramento, CA 95811
(916) 808-8272
Rbess@cityofsacramento.org

Date Initial Study Completed: September 2023

This Initial Study was prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Sections [PRC] 15000 et seq.). The Lead Agency is the City of Sacramento (City).

The City Community Development Department has reviewed the proposed project and, based on the whole record before it, has determined that the proposed project is an anticipated subsequent project identified and described in the *Sacramento 2035 General Plan* (2035 General Plan) Master Environmental Impact Report (EIR) and is consistent with the land use designation and the permissible densities and intensities of use for the project site as set forth in the 2035 General Plan. See State CEQA Guidelines Section 15176(b) and (d).

The City has prepared the attached Initial Study to review the discussions of cumulative impacts, growth-inducing impacts, and irreversible significant effects in the 2035 General Plan Master EIR to determine their adequacy for the project (see State CEQA Guidelines Section 15178(b) and (c)) and identify any potential new or additional project-specific significant environmental effects that were not analyzed in the Master EIR and any mitigation measures or alternatives that may avoid or mitigate the identified effects to a level of insignificance, if any.

As part of the Master EIR process, the City is required to incorporate all feasible mitigation measures or feasible alternatives appropriate to the project as set forth in the Master EIR

(State CEQA Guidelines Section 15177(d)). The Master EIR mitigation measures that are identified as appropriate are set forth in the applicable technical sections below. Policies included in the 2035 General Plan that reduce significant impacts identified in the Master EIR are also identified and discussed. See also the Master EIR for the 2035 General Plan. 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 analysis developed for this Initial Study/Mitigated Negative Declaration (IS/MND) incorporates by reference the general discussion portions of the 2035 General Plan Master EIR (State CEQA Guidelines Section 15150(a)). The City Council Resolution and Master EIR are available for public review at the City's EIR webpage, included below.

A copy of this IS/MND and the technical studies used to prepare the IS/MND may be reviewed in person by appointment at the City of Sacramento Community Development Department, located at 300 Richards Boulevard, 3rd Floor, Sacramento, CA 9581, and at the Sacramento Public Library's Central branch, located at 828 I Street, Sacramento, CA 95814. This IS/MND and supporting documentation may also be downloaded through the City's EIR webpage:

https://www.cityofsacramento.org/Community-Development/Planning/Environmental/Impact-Reports

The City will circulate a Notice of Availability/Notice of Intent (NOA/NOI) that confirms the City's intention to adopt the IS/MND and provides dates for public comment. The NOA/NOI will be available on the City's website set forth above.

The City is soliciting views of interested persons and agencies on the content of the environmental information presented in this document. Written comments should be sent no later than the 30-day review period ending August 2023.

Please send written responses to:

Ron Bess
City of Sacramento Community Development Department
Environmental Planning Services
300 Richards Boulevard, 3rd Floor
Sacramento, CA 95811
(916) 808-8272
rbess@cityofsacramento.org

SECTION II - PROJECT DESCRIPTION

Introduction

This section of the IS/MND provides a description of the Harry Renfree Field Renovations Project at Del Paso Regional Park (proposed project), proposed by the City of Sacramento Youth, Parks & Community Enrichment Department (YPCE), and describes the location, surrounding land uses, existing conditions, and project components.

Project Location

The project site is located at 3615 Auburn Boulevard near the Auburn Boulevard and Bridge Road intersection within the larger Del Paso Regional Park in the northwest portion of the city of Sacramento, Sacramento County, California. Del Paso Regional Park is an approximately 630-acre, multi-use park and includes Harry Renfree Field (Renfree Field).

The project site (Renfree Field, a section of Bridge Road, and the open space to the west—Owl Creek Terrace) is approximately 8.33 acres. It is located on the western portion of Sacramento County Assessor's Parcel Number (APN) 240-0342-011-0000, an approximately 76-acre parcel. The location of the project site within the larger Sacramento region is illustrated in **Figure 1: Project Vicinity**.

Surrounding Land Uses

The 630-acre Del Paso Regional Park includes three golf courses, called the Haggin Oaks Golf Complex; lighted ball fields; and other recreational features, including picnic areas, a sand volleyball court, a play structure and area, restrooms, and the Sacramento Softball Complex. The Sacramento Horsemen's Association is also located within the park boundaries, and the park trails are used by equestrians. Substantial portions of the park are designated natural habitat areas, generally along the Arcade Creek riparian buffer zone and east of Renfree Field.

The project site is located within the larger Del Paso Regional Park and is surrounded by parkland and recreational fields. Renfree Field is bounded by natural areas, a man-made wetland detention basin, an off-street parking lot, and social paths to the east; a park trail, Arcade Creek, and Park Road to the north; a playground, park trails, and Auburn Boulevard to the south; and the Owl Creek Terrace and the Outreach and Engagement Center to the west. Arcade Creek and a riparian buffer zone maintained as a natural area runs through the northern edge of the park, an area that is largely maintained as natural oak woodland, with meandering trails and paths through the park.

Land in the vicinity of Renfree Field is primarily in unincorporated Sacramento County and composed of a low-density residential neighborhood to the north along the north side of Park Road, commercial properties to the east of the Auburn Boulevard on- and off-ramps for Interstate (I-) 80 Business (State Route [SR] 51), a mix of medium-density residential neighborhoods and commercial properties to the south along the south side of Auburn Boulevard, and the location of the Outreach and Engagement Center to the west (as well as other areas of the larger Del Paso Regional Park).



Figure 1: Project Vicinity

Immediately south of the project site at 3700 Auburn Boulevard is a Quik Stop gasoline station and rest stop, at the southeast corner of the Auburn Boulevard and Annadale Lane intersection. Arcade Fundamental Middle School is located 2,100 feet southwest of the project site, and Mira Loma High School is located approximately 2,600 feet south of the project site. The Sacramento McClellan Airport is approximately 1.3 miles to the northwest.

Existing Conditions

Renfree Field is currently developed as a public amenity within Del Paso Regional Park. Renfree Field is currently not in use, but is developed with a lighted baseball field, a playground, and two parking lots—a 126-space parking lot on the west side of the field accessed via Auburn Boulevard and Bridge Road and a 21-space parking lot on the east side of Renfree Field accessed directly from Auburn Boulevard. There are eight 60-foot-tall field light towers along the perimeter of Renfree Field that are not currently in operation. See **Figure 2: Aerial Photograph of Project Site** and **Figure 3: Existing Site Plan**. The project site is designated as Park and Recreation in the 2035 General Plan Land Use Diagram[1] and is zoned R-1, which is defined as a low-density residential zone composed of single-family, detached residences. R-1 zoning also allows recreational facilities.[2] Park features include picnic tables near the playground and trails, and an equestrian trail on the project site's northern and eastern perimeters.

The project site contains a walking trail and an equestrian trail loop that connects to the larger Del Paso Regional Park. The walking trail begins near the playground and western parking lot area and extends east around the existing baseball field's outfield along the natural area near Arcade Creek, where it joins with the equestrian trail near the northeastern project boundary. The project site is divided by Bridge Road running north to south through the western half of the project site. The project area west of Bridge Road is an undeveloped area containing a cleared field surrounded by a chain-link fence on the south and west sides (Owl Creek Terrace).

Adjacent to the project site on the north, east, and west are Arden Creek and areas mostly composed of natural oak woodlands and open space. The regional park's southern boundary is Auburn Boulevard, a four-lane divided road. The project site terrain is generally level. Existing vegetation is composed of turf grass on the baseball field and non-native deciduous trees around the parking lots and playground area. The perimeter of the project site contains valley oak woodland, and the northern boundary is partially located in a mapped flood zone along Arcade Creek.[3]

[1] County of Sacramento. 2022. Sacramento County Online Map. Available at: https://generalmap.gis.saccounty.gov/JSViewer/county_portal.html#. Accessed November 29, 2022.

[2] City of Sacramento. 2014. Planning and Development Code – Base Zones. Available at: http://www.cityofsacramento.org/-/media/corporate/files/cdd/planning/maps/sacramento_zoning_ev10.pdf. Accessed November 29, 2022.

[3] Federal Emergency Management Agency (FEMA). 2023. FEMA Flood Map Service Center. Available at: https://msc.fema.gov/portal/search?AddressQuery=3615%20Auburn%20Boulevard%2C%20sacramento#searchresultsanchor. Accessed March 20, 2023.



Figure 2: Aerial Photograph of Project Site.



Figure 3: Existing Site Plan.

Existing access into the project site's eastern surface parking lot is provided from Auburn Boulevard. Existing access into the project site's western surface parking lot is provided from Auburn Boulevard and Bridge Road, a two-lane road off Auburn Boulevard. Bridge Road connects to Park Road, which forms the northern boundary of Del Paso Regional Park in the immediate project vicinity and provides access to the homes north of the project site.

The project site is not located within any Community Plan areas and is consistent with the 2035 General Plan designation that shows the project site as a Park District.[4] The City adopted the Del Paso Regional Park Master Plan in 1985 (1985 Park Master Plan), which designates the project site as a Regional Park. An EIR was approved for the 1985 Park Master Plan (State Clearinghouse #1984091704). The proposed project is consistent with the land use designation for the project site as set forth in the 2035 General Plan and is considered a subsequent project identified and described in the 2035 General Plan Master EIR.

Proposed Project Characteristics

The proposed project includes the replacement of the current Renfree Field baseball facilities—constructed in 1968 and commemoratively named for the City's parks superintendent during the 1950s and 1960s—with two side-by-side baseball fields (Field 1 and Practice Field 2) with overlapping outfield areas and a new soccer field. Baseball Field 1 would be located on roughly the same footprint as the existing Renfree Field, would be oriented similarly, and would have 30-foot-tall backstop fencing. Practice Field 2 and its 30-foot-tall backstop fencing would be located on the southeast portion of the site, north of the play structure and eastern parking lot and adjacent to the existing walking paths/equestrian trails. A 210-foot-by-330-foot soccer field would be striped in the outfield area(s) of the proposed new ballfields on the north portion of the existing Renfree Field. Infrastructure associated with the existing Renfree Field such as bleachers, bullpens, shaded dugouts, lighting, and connecting sidewalks would be replaced. New bleachers, bullpens, and shaded dugouts would be developed for Practice Field 2.

The northern portion of the western parking lot would be redesigned to include a full-sized asphalt basketball court and four pickleball courts with benches and fencing. The southern portion of the existing western parking lot would be redesigned to accommodate an approximately 77-space vehicle parking lot with two-way access via Bridge Road. A parking gate would be placed at the entry and a bioswale would provide stormwater filtration prior to entering the storm drain.

The City's publicly available Del Paso Regional Park Improvement Project Survey from May 31, 2022, was posted via SurveyMonkey.[5] The City received 164 responses which resulted in the final renovation plan and suite of park amenities. All proposed project improvements are shown in **Figure 4: Proposed Site Plan** and **Appendix A: Proposed Project Plans**.

[4] City of Sacramento. 2015. *Sacramento 2035 General Plan – Arden Arcade Community Plan*. Adopted March 3. Available at: https://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/Community-Plans/Arden-Arcade.pdf?la=en. Accessed July 20, 2023.

[5] City of Sacramento. 2022. *Del Paso Regional Park Improvement Project Survey*. Available at: www.cityofsacramento.org/-/media/Corporate/Files/ParksandRec/Parks/DelPasoRegional/DelPasoImprvSurveyResults2022.pdf?la=en. Accessed July 20, 2023.

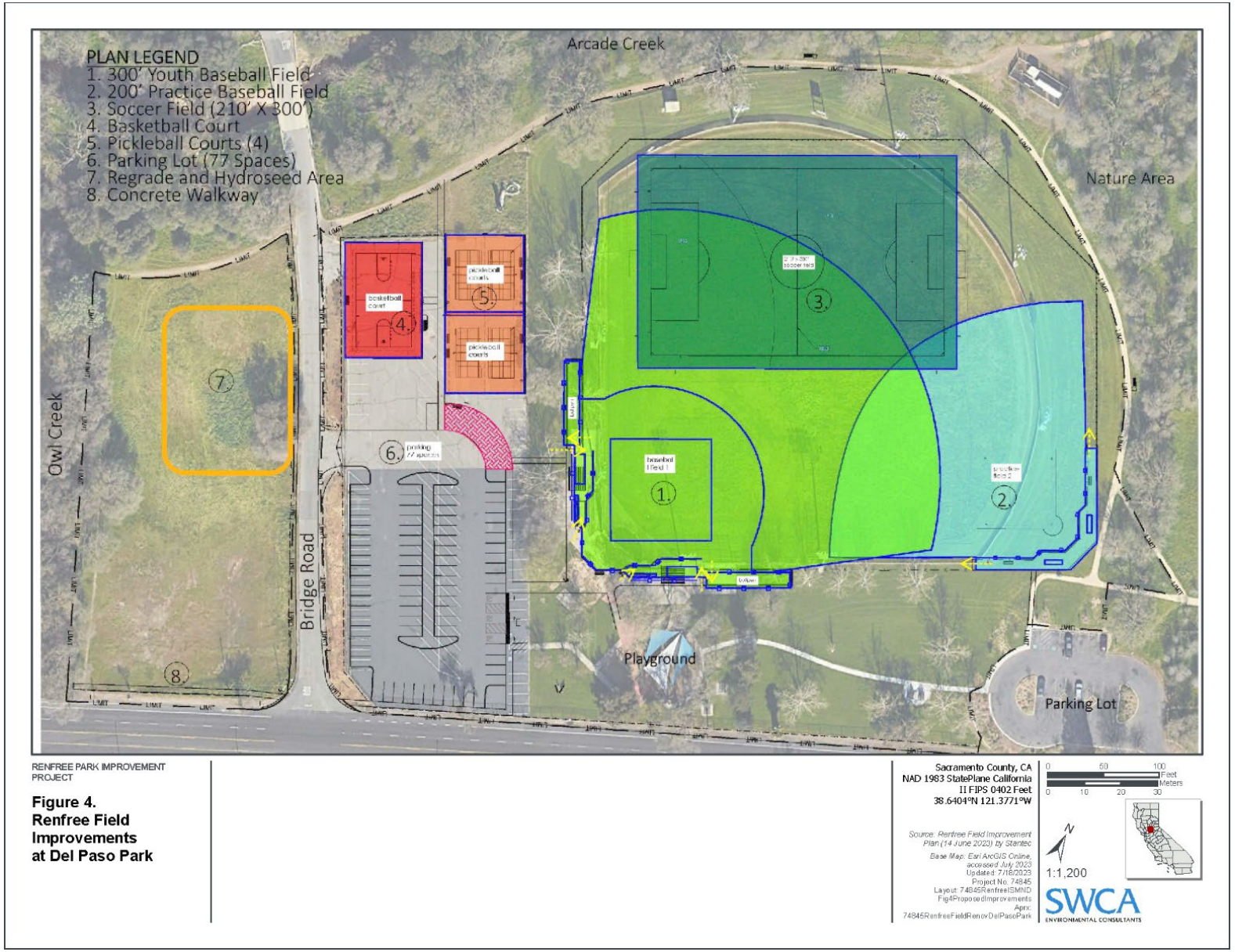


Figure 4: Proposed Site Plan.

The proposed sidewalk improvements would extend west from the edge of the existing parking lot across Bridge Road and along the north side of Auburn Boulevard to the edge of the Owl Creek Terrace and would connect the new and existing park features. The proposed project would also include new lighting for the walkway, parking lot, sports courts, and baseball fields. New lighting for the baseball fields would replace the existing light towers and would be oriented along the perimeter of the field to accommodate lighting for the two baseball fields and soccer field. There would be approximately eight new approximately 60-foot-tall light towers, which are the same number and height as the existing light towers that would be removed.

Redevelopment of Renfree Field and the western parking lot to accommodate additional ballfields and sports courts and construction of 75 linear feet of new 5-foot-wide sidewalk along Auburn Boulevard on the southern perimeter of site would not increase the amount of impervious surfaces on the project site compared to existing conditions. Grading of the Owl Creek Terrace and subsequent hydroseeding with a pre-selected herbaceous mix would occur immediately west of Bridge Road, where excess soil was placed as part of the development of the 21-space parking lot on the east side of the project site.[6]

SITE ACCESS, PARKING, AND VEHICLE CIRCULATION

The proposed project would not include any roadway realignments and vehicle access would continue via Auburn Boulevard and Bridge Road. Regional access to the project site would be provided by I-80 Business, which is located approximately 750 feet north of the project site, with on- and off-ramps at Auburn Boulevard and Watt Avenue. Implementation of the proposed project would include sidewalk frontage improvements along Auburn Boulevard and throughout the project site.

The proposed project would include a total of 77 surface parking spaces, reducing the on-site parking total by approximately 50 spaces; the existing 21-space parking lot would remain. The parking lot would include Americans with Disabilities Act (ADA) spaces and a drop-off area in the northwestern corner between the courts and parking lot. There would be bicycle racks or lockers located at the drop-off area or other preferred location.

LANDSCAPING

The proposed project would remove approximately 21 trees throughout the site due to poor health, structural defects, or location within the proposed development footprint.[7] To mitigate the loss of the trees, the City would be required to plant replacement trees on a tree-to-tree ratio, which would result in replacement of 21 trees, consisting of 307 caliper inches. The City would be required to plant new trees that are native trees adapted to the site's environmental conditions.

Justification for the removal is required for any City Tree that is 4 inches in diameter or larger at diameter at standard height (DSH). Using the criteria provided in the Sacramento City Municipal Code (City Code), mitigating the removal of the 21 trees could require the City to plant 21 new trees, with the number of required replacement trees to be decided by the City Council, after

[6] City of Sacramento. 2018. *Notice of Exemption: Del Paso Parking and Picnic Improvements*. January 29.

[7] SWCA Environmental Consultants (SWCA). 2023. *Biological Resources Evaluation for the Renfree Field Renovation Project, Sacramento, Sacramento County, California*. Prepared for City of Sacramento. May. Included as **Appendix C**.

considering the Director of the City Department of Parks and Recreation recommendation, in accordance with Sacramento City Code 12.56.040.[8]

The proposed landscaping is shown on **Figure 5: Proposed Landscaping Plan**. Per City Code Section 17.612.040, portions of the reconfigured parking lot on the western portion of the project site would be subject to tree shading requirements.[9] The total parking lot area would be approximately 27,581 square feet, and the required shade area would be approximately 13,790 square feet, totaling 50 percent.

UTILITIES

There are existing utilities within the adjacent roadway network along Auburn Boulevard and Bridge Road. Existing utilities in proximity to the project site include natural gas, water, sewer, and telecommunications services. The existing Renfree Field and associated park features such as the playground are currently served by public utilities. The proposed project would include the extension/upgrade of utilities for electricity, domestic and irrigation water services.

The project site is in the Sacramento Regional County Sanitation District (SRCSD) service area, which provides wastewater collection (sewer) within the project area. An existing Sacramento Area Sewer District (SASD) collector line is located underneath Auburn Boulevard.

The Sacramento Municipal Utility District (SMUD) is the utility provider for electricity. The project site is in Ward 7 of the SMUD service area. Approximately nine new light posts would be installed in the western parking lot. The project would include installation of field lighting that would consist of approximately eight 60-foot-tall light poles around the proposed baseball fields and soccer fields. Additional light poles would be installed throughout the parking lot. After completion of construction, there would be 17 light posts/towers on the project site. See **Figure 6: Proposed Excavation Plan**. The poles would be affixed with energy-efficient LED light fixtures that would be designed to eliminate disruptive glare to nearby homes and reduce light pollution to the night sky. The proposed project would connect to the electrical lines located along Auburn Boulevard adjacent to the children's playground.

The project site is in the City Department of Utilities drainage district. Sustainable design and maintenance features to be included with the proposed park renovation include required elements such as adherence to the City's Model Water Efficient Landscape Ordinance (MWELO), inclusion of low-impact development (LID) strategies to promote stormwater infiltration and reduce run-off, and "River Friendly Landscaping" program practices. Stormwater runoff from impervious surfaces on the project site such as the western parking lot would be directed to a new bioswale to be located near the site's southern border at the park entry. A parking gate would be placed at the entry and the bioswale would provide stormwater filtration prior to entering the storm drain. Domestic and irrigation water is provided by the City of Sacramento Water, the municipal water service and a division of the Department of Utilities.

Trash pickup and waste services are provided by the municipal provider, City of Sacramento Solid Waste Services.

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[8] City of Sacramento. 2016. An Ordinance Amending Sections 2.62.030 and 8.04.100, Deleting and Adding Chapter 12.56, and Deleting Chapters 12.60 and 12.64 of the Sacramento City Code, Relating to Trees. Sacramento City Council Ordinance 2016-0026. Accessed February 12, 2023.

[9] City of Sacramento. 2022. Tree Permits and Ordinances. Available at: https://www.cityofsacramento.org/Public-Works/Maintenance-Services/Trees/Permits-Ordinances. Accessed July 20, 2023.

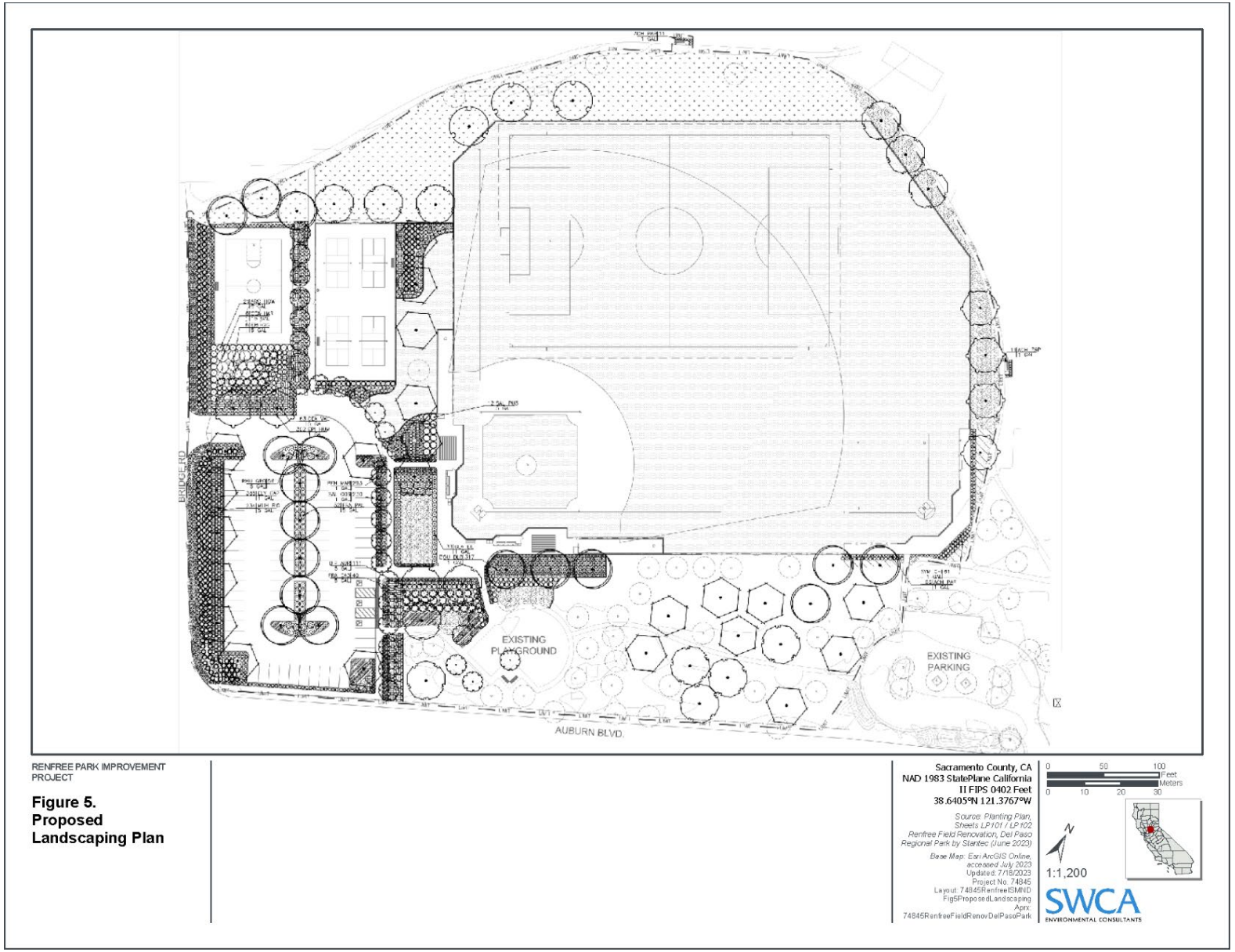


Figure 5: Proposed Landscaping Plan.

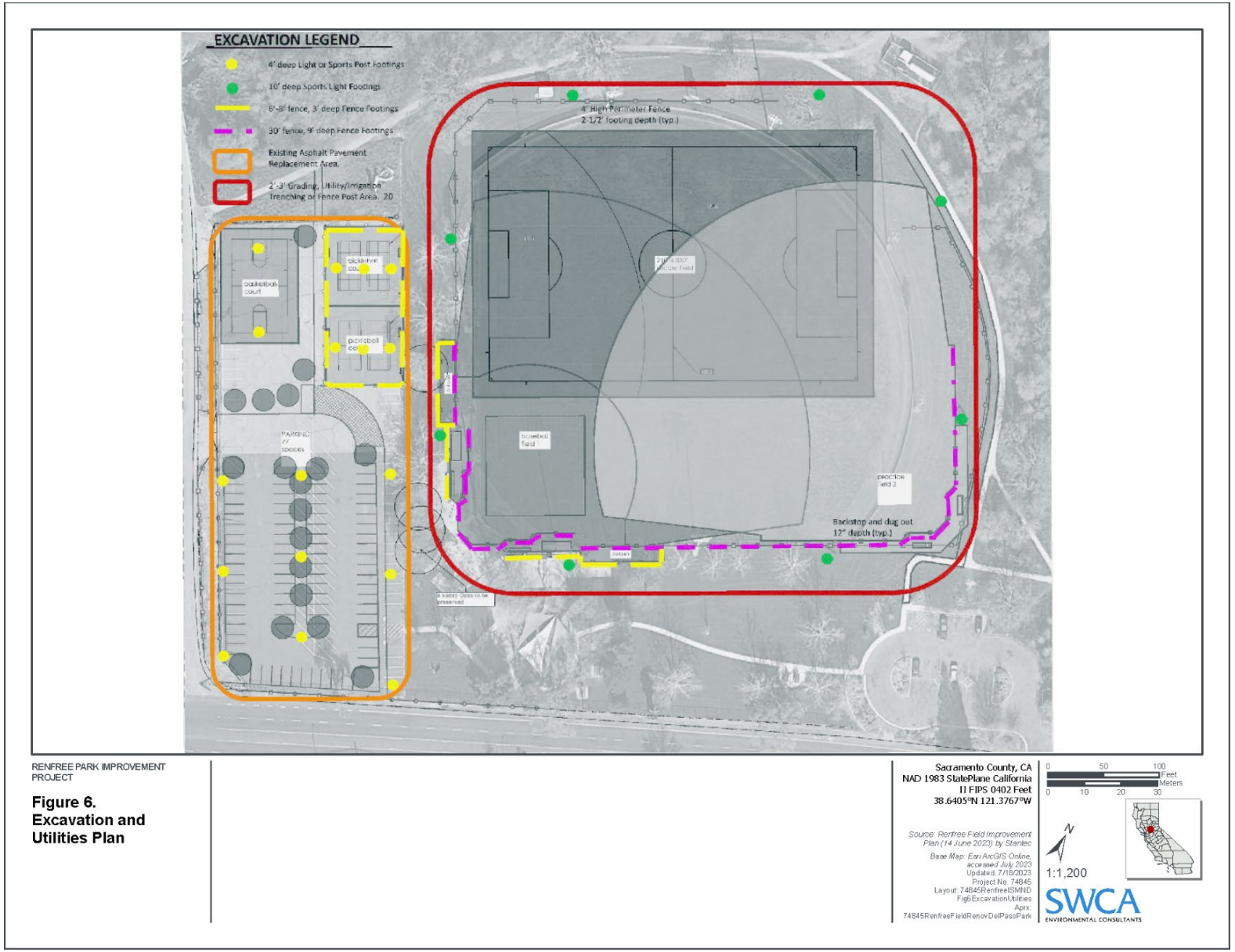


Figure 6: Proposed Excavation Plan.

PROJECT OPERATIONS

While Renfree Field is currently not in use, the children's playground would remain open during construction. Upon completion of construction, the operational hours for the sports courts, ball fields, and soccer field at Renfree Field would be 6:00 a.m. to 10:00 p.m., typical for recreational facilities. Although the proposed project would reduce the amount of available parking at the site, it would increase park use due to the introduction of new, additional park features.

PROJECT CONSTRUCTION

Project construction activities include demolition of the existing park infrastructure associated with Renfree Field, including light towers and fences. Approximately 35,882 square feet of asphalt and aggregate would be removed in the northwestern portion of the western parking lot. Construction activities in the western area of the project site across Bridge Road (Owl Creek Terrace) would include grading and hydroseeding. Site grading and balancing (including Owl Creek Terrace grading) would occur throughout the site for the development of the new facilities. The proposed project would include sidewalk construction along the north side of Auburn Boulevard from Bridge Road to the edge of the Owl Creek Terrace area and the extension of new utilities for electricity, domestic and irrigation water services, storm drainage, and bioswale development and landscaping.

Project construction is expected to start in spring 2024 and occur over a period of approximately 8 to 10 months. The existing Renfree Field and parking lots on the west and east sides would be used as staging areas during construction. No staging or construction parking would occur beyond the parking lots. The approximate duration of each phase is shown in **Table 1: Construction Duration**. The proposed project would require approximately 20 workers during construction. Workers would park at the existing parking lots or at the parking lot associated with the Outreach and Engagement Center west of the Owl Creek Terrace.

Table 1: Construction Duration

Construction Phase	Duration (days)
Clearing & Grubbing/Demolition	15
Erosion Control & Site Grading	15
Drainage System	15
Site Work/Paving	75
Irrigation System	30
Landscaping	30
Plant Establishment period	60

Source: SWCA Environmental Consultants (SWCA). 2023. *Renfree Field Renovations Project Air Quality and Greenhouse Gas Technical Report*. Prepared for City of Sacramento. May. Included as **Appendix B**.

Cut-and-fill would be required to balance the site. Excavations would be required at varying depths throughout the site:

- Four-foot-deep excavations would be required for light posts throughout the parking lots, and sport post footings. Sport post footings include nets for pickleball and hoops for basketball.

- Three-foot-deep excavations would be required for fencing around the bullpens at Field 1 and the pickleball courts. The dugouts, bullpens, and pickleball courts would be fenced with 6- or 8-foot fencing.
- Two- to 3-foot-deep excavations would be required for the grading, utility, and irrigation trenching for the outfield fence posts.
- Nine-foot-deep excavations would be required for the 30-foot fencing and backboards along the southern extent of the two baseball fields.
- Three-foot-deep excavations would be required for the 4-foot outfield fencing.
- The greatest depth of excavation would extend to a depth of no more than 10 feet at discrete locations associated with lighting tower locations.

Project construction would include use of standard construction equipment, including backhoes, excavators, graders, dump trucks, tractors, loaders, rollers, pavers, and light tools (e.g., jackhammers). During construction activities, the entire perimeter of the project site would be closed to the public. The eastern parking lot would be used for construction worker parking. The existing trails would remain open.

Most construction-related noise would occur during site clearing and grading. Construction work for the proposed project would comply with the City of Sacramento Standard Construction Specifications (or Best Management Practices [BMPs]), which include practices such as watering for dust management and slow on-site vehicle speeds.

Required Discretionary Approvals

The City's YPCE is the project proponent. The City of Sacramento is the Lead Agency with responsibility for approving the proposed project, including approval of the IS/MND and mitigation monitoring plan. The project would also require discretionary permits for demolition, grading, and tree removal.

No wetlands, discharge, or other permits are required from the resource agencies (e.g., U.S. Army Corps of Engineers [USACE], Regional Water Quality Control Board [RWQCB]). No early consultation related to Section 401 or 404 permits is required or has been undertaken with these agencies.

The United Auburn Indian Community provided a request for Assembly Bill (AB) 52 consultation on January 31, 2023. Consultation closed on May 15, 2023, with the inclusion of inadvertent or unanticipated discovery mitigation measures and a tribal monitor during ground-disturbing activities.

The Community Development Department would review the plan set to ensure compliance with General Plan Policies.

SECTION III – ENVIRONMENTAL CHECKLIST AND DISCUSSION

Introduction

A Lead Agency is required by CEQA to examine the effects of a project on the physical conditions that exist within the area that would be affected by the project. Additionally, CEQA 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 agriculture and forestry, land use and planning, minerals, population and housing, and wildfire and the effect of the project on these resources.

DISCUSSION

Agriculture and Forestry Resources

The Master EIR discussed the potential impact of development under the 2035 General Plan on agricultural resources (see Master EIR Chapter 4.1). In addition to evaluating the effect of the 2035 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, ensuring that the conversion of farmland outside the city limits is minimized. The Master EIR concluded that the impact of the 2035 General Plan on agricultural resources within the city was less than significant.

The project site is located within an urbanized area, which includes surrounding recreational, residential, and commercial uses. Agricultural activities or timber-harvest uses do not currently occur on or in the vicinity of the project site. As determined by the California Department of Conservation California Important Farmland Mapper for Sacramento County,[10] the project site is on land designated as Urban and Built-Up Land and does not contain soils designated as Important Farmland (i.e., Prime Farmland, Unique Farmland, or Farmland of Statewide

[10] California Department of Conservation. 2018. Sacramento County Important Farmland 2018. Available at: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed December 2022.

Importance). The site is zoned R-1 for Standard Single Family, which allows for recreational use and is not zoned for agricultural or timber uses, and there are no Williamson Act contracts that affect the project site. The proposed project would remove approximately 21 existing trees throughout the site for various reasons, including poor health, structural defects, or location within the proposed development footprint.[11] To mitigate the loss of the trees, the City would be required to plant 21 (at a ratio of 1:1) native trees that are adapted to the site's environmental conditions. These trees and surrounding forest land within the project vicinity are not to be used for timber and would not affect timber or forestry resources. Because the development of the site would result in no loss of agricultural or forestry lands or uses, the proposed project would have no additional project-specific environmental effects relating to Agriculture and Forestry Resources, and implementation of the proposed project would result in ***no additional significant environmental effects*** beyond what was previously analyzed in the Master EIR.

Land Use and Planning

The Master EIR discussed the consistency of the proposed 2035 General Plan with existing regional land use plans and policies, as well as land use compatibility with adjacent lands (see Master EIR Chapter 3.1).

The proposed project would include renovations of an existing park and replacement of its associated infrastructure, such as bleachers, bullpens, shaded dugouts, lighting, and connecting sidewalks. The project site is designated as Park and Recreation in the 2035 General Plan Land Use Diagram and is zoned R-1 for Standard Single Family, which permits the development of parks and recreational facilities. The project is also consistent with policies in the 1985 Del Paso Regional Park Master Plan for active recreation. Therefore, the proposed project would be consistent with the type and intensity of uses analyzed for the site in the 2035 General Plan Master EIR and would have no additional project-specific environmental effects relating to Land Use and Planning. Therefore, implementation of the proposed project would result in ***no additional significant environmental effects*** beyond what was previously analyzed in the Master EIR.

Minerals

The Master EIR discussed the potential impact of development under the 2035 General Plan on mineral resources (see Master EIR Chapter 4.5). The 2035 General Plan includes policies to protect existing and future mineral production activities within the city. Therefore, the Master EIR concluded that the impact of the 2035 General Plan on mineral resources within the city was less than significant.

The project site is in Mineral Resource Zone (MRZ)-1 and MRZ-3 under the Surface Mining and Reclamation Act (SMARA). MRZ-1 is an area where available geologic information indicates that little likelihood exists for the presence of significant concrete aggregate resources. A small portion of the project area overlaps with MRZ-3, with known or inferred concrete aggregate resources of undetermined mineral resource significance. The site is not designated as an important mineral resource recovery site in the 2035 General Plan. Being that the proposed project is a renovation of an existing park, where the land was previously developed, there would be no loss of available mineral resources that would be of value to the region and the residents of the state. Therefore, implementation of the proposed project would result in ***no***

[11] DUDEK. 2023. *Renfree Field at Del Paso Park Project Arborist Report*. Prepared for City of Sacramento Youth, Parks, and Community Enrichment Park Planning and Development. January. Included as an appendix to **Appendix C**.

additional significant environmental effects beyond what was previously analyzed in the Master EIR.

Population and Housing

The Master EIR describes existing levels of and trends in population, employment, and housing in the Policy Area and Sacramento County, including jobs-housing balance. The Master EIR identifies 2035 General Plan growth assumptions and analyzes projected population, employment, and housing growth in relation to planned buildout of the Policy Area under the 2035 General Plan (see Master EIR Chapter 3.2).

The project site is located within a suburban area of northeast Sacramento, which includes surrounding recreational, residential, and commercial land uses. Implementation of the proposed project would not displace existing housing units or people, and the construction or replacement of housing would not be required. Therefore, no housing would be removed or impacted due to the proposed project.

In addition, the proposed project would be consistent with the site's current General Plan land use and zoning designations. After project improvements, ongoing maintenance and operation activities would be conducted by existing park and recreation department staff, consistent with current standards for similar recreational facilities. Therefore, the proposed project would not indirectly induce substantial population growth in the surrounding community resulting in construction of new housing and would have no additional project-specific environmental effects relating to Population and Housing. Therefore, implementation of the proposed project would result in ***no additional significant environmental effects*** beyond what was previously analyzed in the Master EIR.

Wildfire

The project site is located within an urbanized area and is not located within a Very High Fire Hazard Severity Zone (VHFHSZ) within a Local Responsibility Area.[12] The project site is also not within the Wildland Fire Hazard or Urban Wildfire Hazard areas identified within the 2035 General Plan.[13] In addition, the proposed fire department access would be reviewed by the City Fire Prevention Division, Development Services before issuance of a grading permit. The project would not substantially impair an adopted emergency response plan or emergency evacuation plan and would have no additional project-specific environmental effects relating to Wildfire. Therefore, implementation of the proposed project would result in **no additional significant environmental effects** beyond what was previously analyzed in the Master EIR.

[12] California Department of Forestry and Fire Protection (CAL FIRE). 2008. FHSZ in LRA: Sacramento County. Available at: https://osfm.fire.ca.gov/media/6758/fhszl_map34.pdf. Accessed April 2023.

[13] City of Sacramento. 2015. *Sacramento 2035 General Plan Background Report, Chapter 5: Public Services*. Page 5-25. Adopted March 3. Available at: http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/General-Plan/2035-GP/Chapter-5-Public-Services.pdf?la=en. Accessed April 2023.

Aesthetics

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
1. AESTHETICS Would the project:			
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 located northeast of the Auburn Boulevard and Bridge Road intersection within the larger Del Paso Regional Park, an approximately 630-acre regional park that includes Renfree Field. The visual character of the project site is that of a baseball field in a suburban park environment composed primarily of grassland and oak trees.

Renfree Field is currently not in use, but is developed with a lighted baseball field, a playground, and two parking lots, including a 126-space parking lot on the west side accessed via Auburn Boulevard and Bridge Road and a 21-space parking lot on the east side of Renfree Field accessed directly from Auburn Boulevard. Eight 60-foot-tall field light towers would be located along the perimeter of the baseball outfield. New lighting (nine light posts) would be added in the redesigned parking lot. The YPCE anticipates operation of the field lighting would end at 10:00 p.m., which is typical for recreational facilities. The project site contains a walking trail and an equestrian trail loop that connects to the larger Del Paso Regional Park. Public views of the project site are available to motorists, bicyclists, and pedestrians from Auburn Boulevard and Bridge Road. However, public views of the project site from Park Road to the north of the project site across the Arcade Creek riparian corridor are limited due to mature vegetation. Roadway traffic and lighting from private properties are the primary sources of existing nighttime light in the project area. While the proposed project would introduce new sources of light to the project site, the type and intensity of light would be downcast to avoid spillover, resulting in less spillover than the historic lighting.

Renfree Field is bounded by a residential neighborhood to the north along Park Road, the natural areas of the park and commercial properties to the east near the Auburn Boulevard on- and off-ramps, a mix of residential and commercial properties to the south along the south side of Auburn Boulevard, and other recreational areas of the larger Del Paso Regional Park to the west beyond the Outreach and Engagement Center and commercial properties near the Watts Avenue on- and off-ramps.

Existing scenic resources in the city include major natural open space features such as the American and Sacramento Rivers, the California State Capitol, and associated parkways. The project site does not contain any identified scenic resources and is not located within an area designated as a scenic resource or vista. The California Department of Transportation (Caltrans) manages the State Scenic Highway System, which provides guidance and assists local government agencies with the process to officially designate scenic highways. According to

Caltrans, designated scenic highways are not located in proximity to the project site, and the project site is not visible from any state-designated scenic highways.[14]

STANDARDS OF SIGNIFICANCE

The significance criteria used to evaluate the project impacts to aesthetics are based on Appendix G of the State CEQA Guidelines, thresholds of significance adopted by the City in applicable general plans and previous environmental documents, and professional judgment. For the purposes of the IS/MND, a significant impact related to aesthetics would occur if the proposed project would:

- substantially interfere with an important scenic resource or substantially degrade the view of an existing scenic resource; or
- 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.

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, and the potential changes to those conditions that could result from development consistent with the 2035 General Plan. See Master EIR Chapter 4.13.

The Master EIR identified potential impacts for light and glare (Impact 4.13-1) and concluded that impacts would be less than significant. The Master EIR also addressed changes in scenic resources and views and found that the impact of the 2035 General Plan would be less than significant with implementation of applicable General Plan policies (Impact 4.13-2).

ANSWERS TO CHECKLIST QUESTIONS

Question A and Question B (Glare and Light)

The city of Sacramento is mostly built out and a large amount of widespread ambient light from urban uses already exists. New development permitted under the proposed 2035 General Plan could 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.

The Visual Resources section of the Master EIR addresses lighting and glare standards for projects. New projects would be subject to the 2035 General Plan policies, which would ensure that new sources of light within the project site would be properly designed so as not to result in substantial increases in light or spillover illumination into adjacent streets and properties. The proposed project would comply with all applicable 2035 General Plan policies, including Policy

[14] California Department of Transportation (Caltrans). 2023. California State Scenic Highway System Map. Available at: https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa. Accessed January 2023.

ER 7.1.3 in the Environmental Resources section,[15] which would be ensured through the Site Plan review process).

- **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.

Eight field light towers would be sited along the perimeter of the new ballfields and would be a similar height to existing light towers (60 feet). New lighting design would result in a reduction to the intensity of the existing lighting (although not currently in operation). The lighting towers would use energy-efficient LED light fixtures that would be designed to eliminate disruptive glare to nearby sensitive land uses and reduce light pollution to the night sky. In addition, approximately nine new streetlight poles would be sited in the western parking lot area. Light sources in the project vicinity include roadway lights, light from nearby commercial development along Auburn Boulevard, and vehicle headlights. Glare in the project area consists of windshields and building windows. The closest receptors to the project site are located approximately 230 feet northwest of the project site along Park Boulevard, and at the Sunset Gardens apartment complex, which is approximately 300 feet southeast of the project site across Auburn Boulevard. Given the suburban setting and surrounding light sources, the day or nighttime views from sensitive land uses would not be significantly affected.

Lighting from the proposed project would be consistent with the park's historical use and what has been anticipated for the site per the 2035 General Plan land use designation and analyzed in the Master EIR. The proposed project would comply with all applicable General Plan policies related to minimizing light and glare, and compliance with such policies would be ensured during site plan review for the project. Therefore, the proposed project would have ***no additional significant environmental effects*** related to new sources of substantial light or glare beyond those already analyzed in the Master EIR.

Question C (Visual Character)

The visual character of the project site is typical of a recreational facility. The proposed project would replace the existing Renfree Field with two baseball fields; develop a 210-foot by 330-foot soccer field, one full-size basketball court, and four pickleball courts; and replace the associated infrastructure such as bleachers, bullpens, shaded dugouts, lighting, and connecting sidewalks. No views would be blocked or interrupted.

The project site is designated as Park and Recreation in the 2035 General Plan Land Use Diagram and is zoned R-1, which permits the development of parks and recreational facilities. The proposed field renovations would be consistent with the permitted land use designation for the site and compatible with existing development in the project vicinity. Therefore, the proposed project would not contribute to the degradation of the visual character of the site and surrounding areas.

[15] City of Sacramento. 2015. *Sacramento 2035 General Plan, Environmental Resources*. Adopted March 3. Available at: http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/General-Plan/2035-GP/Environmental-Resources.pdf?la=en. Accessed March 2023.

The project site is not located within a City Design Review District.[16] However, City staff would review the Site Plan prior to implementation of the proposed project. As noted in City Code Chapter 17.808.110,[17] the purpose of Site Plan and Design Review is to ensure that the physical aspects of development projects are consistent with the 2035 General Plan and any other applicable specific plans or design guidelines, and that projects are high quality and compatible with surrounding development, among other considerations. Accordingly, Site Plan and Design Review for the proposed project would ensure that the proposed development would not result in a substantial degradation in the existing visual character of the project site.

Therefore, any potential impacts to the visual character of the site and its surroundings associated with development of the site have been previously analyzed in the Master EIR, and the proposed project would have ***no additional significant environmental effects*** beyond what was anticipated for the site in the Master EIR.

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

Air Quality

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
2. AIR QUALITY Would the project:			
A) Result in construction emissions of NO_x above 85 pounds per day?			X
B) Result in operational emissions of NO_x or ROG above 65 pounds per day?			X
C) Violate any air quality standard or have a cumulatively considerable contribution to an existing or projected air quality violation?			X
D) Result in PM_{10} and $PM_{2.5}$ concentrations that exceed SAMQMD requirements?			X
E) Result in CO concentrations that exceed the 1-hour state ambient air quality standard (i.e., 20.0			X

[16] City of Sacramento. 2019. City of Sacramento Design Review Districts. Available at: https://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/Maps/2019-Updated-Maps/Design_Review_Overview-Map.pdf?la=en. Accessed March 2023.

[17] Sacramento City Code, Chapter 17.808.110, Scope of site plan and design review. Available at: https://library.qcode.us/lib/sacramento_ca/pub/city_code/item/title_17-division_viii-chapter_17_808-article_i. Accessed March 2023.

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
ppm) or the 8-hour state ambient standard (i.e., 9.0 ppm)?			
F) Result in exposure of sensitive receptors to substantial pollutant concentrations?			X
G) Result in TAC exposures creating a risk of 10 in 1 million for stationary sources, or substantially increase the risk of exposure to TACs from mobile sources?			X

ENVIRONMENTAL SETTING

Discussion in this section relies on the project-specific *Renfree Field Renovations Project Air Quality and Greenhouse Gas Technical Report*,[18] included as **Appendix B** in this IS/MND.

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. The terrain in the valley is flat and approximately 25 feet above sea level.

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 about 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–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 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 ambient air quality standards. The Schultz Eddy normally dissipates around noon when the Delta Breeze begins.

[18] SWCA Environmental Consultants (SWCA). 2023. *Renfree Field Renovations Project Air Quality and Greenhouse Gas Technical Report*. Prepared for City of Sacramento. May. Included as **Appendix B**.

Criteria Air Pollutants

Concentrations of emissions from criteria air pollutants (the most prevalent air pollutants known to be harmful to human health) are used to indicate the quality of the ambient air. Criteria air pollutants include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable and fine particulate matter (particulate matter 10 microns or less in diameter [PM_{10}] and 2.5 microns or less in diameter [$PM_{2.5}$]), and lead. The sources of criteria air pollutants and their respective acute and chronic health impacts are described in **Table 2: Sources and Health Effects of Criteria Air Pollutants**.

Table 2: Sources and Health Effects of Criteria Air Pollutants

Pollutant	Sources	Health Effects	
		Acute[1]	Chronic[2]
Ozone	Secondary pollutant resulting from reaction of ROG and NO_X in presence of sunlight. ROG emissions result from incomplete combustion and evaporation of chemical solvents and fuels; NO_X results from the combustion of fuels	Increased respiration and pulmonary resistance; cough, pain, shortness of breath, lung inflammation	Permeability of respiratory epithelia, possibility of permanent lung impairment
Carbon monoxide (CO)	Incomplete combustion of fuels; motor vehicle exhaust	Headache, dizziness, fatigue, nausea, vomiting, death	Permanent heart and brain damage
Nitrogen dioxide (NO_2)	Combustion devices; e.g., boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines	Coughing, difficulty breathing, vomiting, headache, eye irritation, chemical pneumonitis or pulmonary edema; breathing abnormalities, cough, cyanosis, chest pain, rapid heartbeat, death	Chronic bronchitis, decreased lung function
Sulfur dioxide (SO_2)	Coal and oil combustion, steel mills, refineries, and pulp and paper mills	Irritation of upper respiratory tract, increased asthma symptoms	Insufficient evidence linking SO_2 exposure to chronic health impacts
Respirable particulate matter (PM_{10}) and Fine particulate matter ($PM_{2.5}$)	Fugitive dust, soot, smoke, mobile and stationary sources, construction, fires and natural windblown dust, and formation in the atmosphere by condensation and/or transformation of SO_2 and ROG	Breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, premature death	Alterations to the immune system, carcinogenesis

Pollutant	Sources	Health Effects	
		Acute[1]	Chronic[2]
Lead	Metal processing	Reproductive/developmental effects (fetuses and children)	Numerous effects including neurological, endocrine, and cardiovascular effects

Source: U.S. Environmental Protection Agency (EPA). 2022. Criteria Air Pollutants. Available at: https://www.epa.gov/criteria-air-pollutants. Accessed June 2023.

Notes: NO_X = nitrogen oxides; ROG = reactive organic gases

1. "Acute" refers to effects of short-term exposures to criteria air pollutants, usually at fairly high concentrations.

2. "Chronic" refers to effects of long-term exposures to criteria air pollutants, usually at lower, ambient concentrations.

Existing Air Quality

The U.S. Environmental Protection Agency (EPA) has been charged with implementing national air quality programs. EPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was enacted in 1970 and most recently amended by Congress in 1990. The CAA required the EPA to establish the National Ambient Air Quality Standards (NAAQS) for the following criteria air pollutants: ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. The CAA also requires each state to prepare a state implementation plan (SIP) for attaining and maintaining the NAAQS. The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. Individual SIPs are modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies.

The California Air Resources Board (CARB) is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, required CARB to establish its own California Ambient Air Quality Standards (CAAQS). CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the abovementioned criteria air pollutants. In most cases, the CAAQS are more stringent than the NAAQS.

Sacramento County is currently designated as nonattainment for the NAAQS and CAAQS 8-hour ozone standard and as nonattainment for the NAAQS 24-hour $PM_{2.5}$ standard. The SVAB is designated as unclassified or in attainment for the remaining criteria air pollutants.[19]

Toxic Air Contaminants

According to the California Almanac of Emissions and Air Quality, most of the estimated health risks from toxic air contaminants (TACs) can be attributed to relatively few compounds, the most important being diesel particulate matter (diesel PM). Diesel PM differs from other TACs in that it is not a single substance but a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions control system is being used. In addition to diesel PM, the TACs for which

[19] U.S. Environmental Protection Agency (EPA). 2022. California Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. Available at: https://www3.epa.gov/airquality/greenbook/anayo_ca.html. Accessed April 2023.

data are available that pose the greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene.

Sensitive Receptors

Sensitive receptors are generally considered to include those land uses where exposure to pollutants could result in health-related risks to sensitive individuals, such as children or the elderly. Residential dwellings, schools, hospitals, playgrounds, and similar facilities are of primary concern because of the presence of individuals particularly sensitive to pollutants and/or the potential for increased and prolonged exposure of individuals to pollutants. The closest sensitive receptors to the project site include the park users at the playground, single-family residences approximately 230 feet northwest of the project site along Park Boulevard, and the Sunset Gardens apartment complex which is approximately 300 feet southeast of the project site across Auburn Boulevard.

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 nitrogen oxides (NO_X) above 85 pounds per day (lbs/day);
- Operational emissions of NO_X or reactive organic gases (ROG) above 65 lbs/day;
- Violation of any air quality standard or contribute substantially to an existing or projected air quality violation;
- Any increase in PM_{10} concentrations, unless all feasible Best Available Control Technologies (BACTs) and Best Management Practices (BMPs) have been applied, then increases above 80 lbs/day or 14.6 tons per year; or $PM_{2.5}$ in concentrations of 82 lbs/day or 15 tons/year.
- CO concentrations that exceed the 1-hour state ambient air quality standard (i.e., 20.0 parts per million [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.

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 unhealthful pollutant concentrations. See Master EIR Chapter 4.2.

Policies in the 2035 General Plan in the Environmental Resources section were identified as mitigating potential effects of development that could occur under the 2035 General Plan. For example, Policy ER 6.1.1 calls for the City to work with the California Air Resources Board and

the Sacramento Metropolitan Air Quality Management District (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 TACs 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, which requires coordination with SMAQMD in evaluating exposure of sensitive receptors to TACs and imposes appropriate conditions on projects to protect public health and safety, as well as Policy LU 2.7.5, which requires extensive landscaping and trees along freeways fronting elevation and design elements that provide proper filtering, ventilation, and exhaust of vehicle air emissions from buildings.

ANSWERS TO CHECKLIST QUESTIONS

Question A (NOx above 85 pounds/day)

To evaluate ozone and other criteria air pollutant emissions and support attainment goals for those pollutants for which the area is 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 gases [ROG] and NO_X, as the area is under nonattainment for ozone. The SMAQMD recommended thresholds of significance for ROG and NO_X are in units of lbs/day and are presented in **Table 3: SMAQMD Thresholds of Significance for Ozone Precursors**.

Table 3: SMAQMD Thresholds of Significance for Ozone Precursors

Pollutant	Construction Thresholds	Operational Thresholds
NO_X	85 lbs/day	65 lbs/day
ROG	–	65 lbs/day

Source: Sacramento Metropolitan Air Quality Management District (SMAQMD). 2020. SMAQMD Thresholds of Significance Table. April. Available at: www.airquality.org/LandUseTransportation/Documents/CH2ThresholdsTable4-2020.pdf. Accessed February 2023.

In order to determine whether the proposed project would result in ozone emissions in excess of the applicable thresholds of significance presented in **Table 3**, the proposed project's construction-related and operational emissions have been estimated using the California Emissions Estimator Model (CalEEMod; Version 2022.1.1.12)—a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including greenhouse gas (GHG) emissions, from land use projects (**Appendix B**). CalEEMod uses widely accepted federal and state models for emission estimates and default data from sources such as EPA AP-42 emission factors, CARB vehicle emission models, and studies from California agencies such as the California Energy Commission (CEC). The model quantifies direct emissions from construction and operations, as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. However, where project-specific data are available, such data should be input into the model. Accordingly, construction schedule, construction equipment, and material exported were slightly modified within the model based on

known project specifics provided by the City. The following assumptions were applied to the model:

- The construction duration is assumed to be approximately 8 to 10 months, from March 2024 through to the end of December 2024. The proposed project would be fully operational by 2025.
- Three CalEEMod land uses were utilized: "Recreational – City Park" for the 7.25 acres, which includes the fields, paths, and area west of Bridge Road; "Parking – Parking Lot" for the 77 parking spots; and "Parking – Other Asphalt Surfaces" for the approximately 0.5 acre of paved courts.

The results of the proposed project's emissions estimates were compared to the thresholds of significance presented above in **Table 3** to determine the associated level of impact. All CalEEMod modeling results are included as **Appendix B** to this IS/MND.

Construction Emissions

During construction of the proposed project, various types of equipment and vehicles would temporarily operate on the project site. Construction exhaust emissions would be generated from construction equipment, earth movement activities, construction workers' commutes, and construction material hauling for the entire construction period. These construction 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_X, as shown in **Table 3: SMAQMD Thresholds of Significance for Ozone Precursors**, above.

According to the CalEEMod results, the proposed project is estimated to result in maximum daily construction emissions of NO_X, as shown in **Table 4: Maximum Unmitigated Project Construction NOX Emissions**.

Table 4: Maximum Unmitigated Project Construction NO_X Emissions

Pollutant	Project Emissions (lbs/day)	SMAQMD Threshold of Significance (lbs/day)
NO_X	64.90	85

Source: CalEEMod, May 2023 (see **Appendix B**).

As shown in **Table 4**, the proposed project's maximum unmitigated construction-related NO_X emissions would not exceed the applicable threshold of significance for NOx of 85 lbs/day. All projects under the jurisdiction of the SMAQMD, including the proposed project, are required to comply with all applicable SMAQMD rules and regulations.[20] Rules and regulations related to construction include, but are not limited to, Rule 201 (General Permit Requirements), Rule 402 (Nuisance), Rule 403 (Fugitive Dust), Rule 404 (Particulate Matter), Rule 453 (Cutback and Emulsified Asphalt Paving Materials), Rule 460 (Adhesives and Sealants), Rule 902 (Asbestos),

[20] A complete list of the current SMAQMD rules and regulations is available at https://www.airquality.org/businesses/rules-regulations. Accessed August 11, 2023

and California Code of Regulations (CCR) requirements related to the registration of portable equipment and anti-idling. Furthermore, all projects, including the proposed project, are required to implement the SMAQMD 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.

Based on the above, the proposed project would result in construction emissions of NO_X below 85 lbs/day, and the effect would be less than significant. Accordingly, construction of the proposed project would have ***no additional significant environmental effects*** beyond those already analyzed as part of the Master EIR.

Question B (NOx or ROG Above 65 Pounds/Day)

Operation of the proposed project would result in various sources of emissions related to landscape maintenance equipment exhaust, and mobile sources and would be similar to existing conditions. Emissions from mobile sources, such as future vehicle trips to and from the project site, would make up most of the emissions related to project operations.

The proposed project's estimated operational emissions are presented in **Table 5: Maximum Project Operational NO_X and ROG Emissions**. As shown in **Table 5**, the proposed project would not result in operational emissions of NO_X or ROG above the 65 lbs/day SMAQMD threshold of significance. Considering that the proposed project would not result in a project-specific impact related to operational emissions of criteria pollutants, operation of the proposed project would result in ***no significant environmental effects*** beyond those already analyzed as part of the Master EIR.

Table 5: Maximum Project Operational NO_X and ROG Emissions

Pollutant	Project Emissions (lbs/day)	SMAQMD Threshold of Significance (lbs/day)
NO_X	0.16	65
ROG	0.16	65

Source: CalEEMod, May 2023 (see **Appendix B**).

Question C (Air Standards)

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

As discussed under Questions A and B and shown in **Table 4** and **Table 5**, 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 particulate matter emissions and would not conflict with or obstruct implementation of the SMAQMD 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 the project would have ***no additional significant environmental effect*** beyond what was previously evaluated in the Master EIR.

Question D (Increase PM_{10})

As the region is designated nonattainment for $PM_{2.5}$, SMAQMD has adopted mass emissions thresholds of significance for PM_{10} and $PM_{2.5}$, which are presented in **Table 6: SMAQMD Thresholds of Significance for PM_{10} and $PM_{2.5}$**.

Table 6: SMAQMD Thresholds of Significance for PM_{10} and $PM_{2.5}$

Pollutant	Construction Thresholds (lbs/day)	Operational Thresholds (lbs/day)	Operational Thresholds (tons/yr)
PM_{10}	80	80	14.6
$PM_{2.5}$	82	82	15

Source: Sacramento Metropolitan Air Quality Management District (SMAQMD). 2020. SMAQMD Thresholds of Significance Table. April. Available at: www.airquality.org/LandUseTransportation/Documents/CH2ThresholdsTable4-2020.pdf. Accessed February 2023.

To comply with the construction thresholds presented in **Table 6**, projects must implement all feasible SMAQMD BMPs and BACTs related to dust control. The control of fugitive dust during construction is required by SMAQMD Rule 403 (Fugitive Dust) and enforced by SMAQMD staff. The BMPs for dust control include the following:

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least 2 feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour.
- All roadways, driveways, sidewalks, and parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes (13 CCR Sections 2449(d)(3) and 2485). Provide clear signage that posts this requirement for workers at the entrances to the site.
- Provide current certificate(s) of compliance for the CARB In-Use Off-Road Diesel-Fueled Fleets Regulation (13 CCR Sections 2449 and 2449.1). For more information contact the CARB at 877-593-6677, doors@arb.ca.gov, or https://www.arb.ca.gov/msprog/offroad/cert/cert.php?eng_id=OFCI. Maintain all construction equipment in proper working condition according to manufacturer's

specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.

Compliance with the foregoing measures is required per Rule 403 (Fugitive Dust), and project construction is assumed to include compliance with the above measures. Consequently, the project's particulate matter emissions are assessed in comparison to the thresholds presented in **Table 6**, above.

To determine whether the proposed project would result in particulate matter emissions in excess of the applicable thresholds of significance presented above, the proposed project's construction and operational PM_{10} and $PM_{2.5}$ emissions have been estimated using CalEEMod. According to the CalEEMod results, the proposed project would result in PM_{10} and $PM_{2.5}$ emissions as shown in **Table 7: Maximum Unmitigated Project Emissions of PM_{10} and $PM_{2.5}$.** As presented in **Table 7**, the proposed project's estimated emissions of PM_{10} and $PM_{2.5}$ would be well below the applicable SMAQMD thresholds of significance.

Table 7: Maximum Unmitigated Project Emissions of PM_{10} and $PM_{2.5}$

Pollutant	Project Construction Emissions (lbs/day)	Construction Thresholds (lbs/day)	Project Operational Emissions (lbs/day)	Operational Thresholds (lbs/day)	Project Operational Emissions (tons/yr)	Operational Thresholds (tons/yr)
PM_{10}	28.04	80	0.28	80	0.03	14.6
$PM_{2.5}$	13.4	82	0.07	82	0.01	15

Source: CalEEMod, May 2023 (see **Appendix B**).

Based on the above, the proposed project is not expected to result in PM_{10} and $PM_{2.5}$ concentrations in excess of the SMAQMD thresholds of significance, and impacts would be less than significant. Considering that the proposed project would not result in a project-specific impact related to particulate matter emissions, operation of the proposed project would result in ***no additional significant environmental effects*** beyond what was previously evaluated in the Master EIR.

Question E (CO Concentration)

Localized concentrations of CO are related to the levels of traffic and congestion along streets and at intersections. Implementation of the proposed project would increase traffic volumes on streets near the project site; therefore, the proposed project would be expected to increase localized 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 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 exceed the applicable threshold of significance. The first tier of the SMAQMD recommended screening criteria for localized CO states that a project would result in a less-than-significant impact to air quality for localized 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 E or F.

Even if a project would result in either of the above, under the SMAQMD second tier of localized CO screening criteria, if all 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 Air Quality and Greenhouse Gas Technical Report concludes that construction, when demolition and site preparation overlap, would result in a peak of approximately 20 work trips per day, two vendor trips per day, and 12 haul truck trips per day, for a total of approximately 34 trips per day.[21] Operation of the project would generate GHG emissions through motor vehicle trips to and from the project site and landscape maintenance equipment operation. The Air Quality and Greenhouse Gas Technical Report concludes that during operation the project would generate approximately 18.76 trips per day.[22]
- 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.
- The mix of vehicle types at the intersection is not anticipated to be substantially different from the County average (as identified by the CARB EMission FACtor [EMFAC] or CalEEMod models).

CalEEMod defaults have been utilized for the project construction and operation. The Auburn Boulevard and Bridge Road intersection would not experience more than 31,600 vehicles per hour following implementation of the proposed project, and air mixing is not inhibited at the project site. Consequently, implementation of the proposed project is not anticipated to result in impacts related to localized CO concentrations. Considering that the proposed project would not result in a project-specific impact related to localized CO concentrations, operation of the proposed project would result in ***no additional significant environmental effects*** beyond what was previously evaluated in the Master EIR.

Question F (Sensitive Receptors)

The proposed project involves the renovation of a recreational facility and would not introduce new sensitive receptors to the area. The existing playground users, and residents along Auburn Boulevard and Park Road would be considered sensitive receptors to any pollutants potentially emitted during construction or operation of the proposed project.

TAC Emissions

The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook)[23] provides recommendations for separating sensitive land uses from land uses 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 diesel particulate matter (diesel PM) 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

[21] SWCA Environmental Consultants (SWCA). 2023. *Renfree Field Renovations Project Air Quality and Greenhouse Gas Technical Report*. Prepared for City of Sacramento. May. Included as **Appendix B**.

[22] Ibid.

[23] California Air Resources Board. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. Available at: https://www.arb.ca.gov/ch/handbook.pdf. Accessed April 2023.

highest associated health risks from diesel PM. Implementation of the proposed project would result in the use of diesel-powered construction equipment as well as heavy-duty diesel vehicles during project construction. Project operations including park maintenance would not result in the use of any diesel-powered equipment.

Construction equipment, vehicle, and material movement activities would occur throughout the project site. During the approximately 10-month construction period, work activities would take place between the hours of 7:00 a.m. and 6:00 p.m., Monday to Saturday, and between 9:00 a.m. and 6:00 p.m. on Sunday. The closest sensitive receptors to the project site include the single-family residences approximately 230 feet north–northwest of the project site along Park Boulevard, or the Sunset Gardens apartment complex, which is approximately 300 feet southeast of the project site across Auburn Boulevard. There is a small playground located approximately 30 feet south of the primary work areas where field renovations and would occur. The playground would remain open during project construction, although it is unlikely to attract playground users during the day when construction activities are happening. The playground is an existing park feature and users would be exposed to TACs only while recreating on the playground, which represents less exposure than nearby residents. In addition, the project would be subject to the regulations and laws relating to TACs at the federal, state, and regional level that would protect sensitive receptors from substantial concentrations. For example, 13 CCR Sections 2449 and 2485 limits idling of heavy-duty trucks to 5 minutes. Unless specifically exempted in Sections 2449 and 2485, all diesel-powered equipment and heavy-duty trucks would be subject to the idling limitations, which would reduce the emission of diesel PM during project construction. Therefore, this impact would be **less than significant,** and no mitigation would be required.

Conclusion

The federal ambient air quality standards (i.e., NAAQS) were established to protect public health, particularly sensitive populations (i.e., asthmatics, children, and the elderly). The health risks associated with exposure to criteria pollutants are evaluated on a regional level, based on the region's attainment of the NAAQS. As such, the SMAQCD regional thresholds were set at emission levels tied to the region's attainment status. Therefore, since the project would not exceed the SMAQMD regional thresholds for construction or operational air emissions, it can be reasonably inferred that the project would not result in air quality health impacts.

As discussed above, the proposed project would not result in the emission of substantial concentrations of localized CO or TACs. Unmitigated project construction would be below the SMAQMD thresholds of significance for NO_X and particulate matter. In addition, emissions during project operations have been shown to be below the SMAQMD thresholds. Therefore, the proposed project would have ***no additional significant environmental effects*** beyond what was previously evaluated in the Master EIR.

MITIGATION MEASURES

AIR-1 SMAQMD Basic and Enhanced Construction Emission Control Practices

Implement SMAQMD Basic and Enhanced Construction Emission Control Practices to Reduce Fugitive Dust. The implementing agency shall require, as a standard or specification of their contract, the construction contractor(s) to implement basic and enhanced control measures to reduce construction-related fugitive dust. Although the following measures are outlined in the SMAQMD CEQA guidelines, they are required for the entirety of the construction area. The implementing agency shall ensure

through contract provisions and specifications that the contractor adheres to the mitigation measures before and during construction and documents compliance with the adopted mitigation measures.

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to, soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least 2 feet of freeboard space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour.
- All roadway, driveway, sidewalk, and parking lot paving should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

AIR-2 SMAQMD Tier 1 Best Management Practices

In accordance with SMAQMD CEQA guidance, all projects undergoing environmental review should implement the Tier 1 BMPs, even if they do not exceed the operational screening table in Chapter 4 of the *Guide to Air Quality Assessment in Sacramento County*.

- **BMP 1:** Projects shall be designed and constructed without natural gas infrastructure.

If project GHG emissions are over the 1,100 metric tons of carbon dioxide equivalent per year (CO_2e/year) after the project applied Tier 1 BMPs, Tier 2 BMPs should be implemented.

- **BMP 2:** Projects shall meet the current California Green Building Standards Code (CALGreen) Tier 2 standards, except all electric vehicle (EV)-capable spaces shall instead be EV nearby.

FINDINGS

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

Biological Resources

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
3. BIOLOGICAL RESOURCES Would the project:			
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

Prior to human development, the natural habitats within the current city limits included perennial grasslands, riparian woodlands, oak woodlands, and a variety of wetlands, including vernal pools, seasonal wetlands, freshwater marshes, ponds, streams, and rivers. Over the last 150 years, agriculture, irrigation, flood control, and urbanization have resulted in the loss or alteration of much of the natural habitat within the city limits. Non-native annual grasses have replaced the native perennial grasslands, many of the natural streams have been channelized, much of the riparian and oak woodlands have been cleared, and most of the marshes have been drained and converted to agricultural or urban uses.

Though the majority of the city is developed with residential, commercial, and other urban development, valuable plant and wildlife habitat still exists. These natural habitats are located primarily near the city boundaries in the northern, southern, and eastern portions of the city, but also occur along river and stream corridors and on several 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. These habitats and their general locations are discussed below and are based on information in the *Biological Resources Evaluation for the Renfree Field Renovation Project, Sacramento, Sacramento County, California* (BRE) (**Appendix C**).[24] The BRE included a field survey conducted on December 7, 2022.

The project site comprises the entirety of Renfree Field and adjacent areas of Del Paso Regional Park, covering a total area of 8.33 acres. The project site contains a mix of natural areas and park improvements such as a baseball field, a playground, and parking lots. Existing vegetation is predominantly composed of areas of landscape plants and shade trees around the parking lots and throughout the playground area and turf grass on the baseball field. The northern and eastern perimeter of Renfree Field is surrounded by natural areas consisting of

[24] SWCA Environmental Consultants (SWCA). 2023. *Biological Resources Evaluation for the Renfree Field Renovation Project, Sacramento, Sacramento County, California*. Prepared for City of Sacramento. May. Included as **Appendix C**.

Valley Oak Woodland with a grass understory. Arcade Creek is located within the natural area north of the project site and runs through Del Paso Regional Park from west to east. Owl Creek Terrace is located within a natural area immediately west of the project site. The elevation at the project site is approximately 68 feet above sea level. The topography of the project site is generally flat and gently slopes to the northwest. Land uses surrounding the project site include a mix of industrial, commercial, and residential uses.

The project site is on the Rio Linda, California U.S. Geological Survey (USGS) 7.5-minute quadrangle. A search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) was performed to identify known occurrences of special-status species within the project site quadrangle and the eight surrounding quadrangles: Sacramento East, Taylor Monument, Verona, Pleasant Grove, Citrus Heights, Roseville, Carmichael, and Sacramento West. In addition to the search of the CNDDB, SWCA Environmental Consultants (SWCA) searched the California Native Plant Society (CNPS) inventory of rare and endangered plants for known occurrences of federally listed plants in the same search area as used for the CNDDB. An unofficial list identifying federally listed, candidate, or proposed species that potentially occur in or could be affected by projects on the Rio Linda quadrangle or in Sacramento County was obtained from the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) on December 5, 2022.

Special-Status Plant Species

As discussed in the BRE (see **Appendix C**),[25] all plant species were eliminated from further consideration due to the habitat requirements (i.e., mesic meadows and seeps, vernal pools, freshwater marshes, and serpentine or gabbroic soil) that are not present on the project site. Much of the project site is regularly mowed and disked to prevent weed growth. Due to the lack of suitable habitat, frequent past and present disturbance of the project site, and the developed nature of much of the surrounding area, special-status plants are not likely to occur on-site. No special-status plant species were observed during the habitat assessment conducted on December 7, 2022.

Special-Status Wildlife Species

As discussed in the BRE (see **Appendix C**),[26] of the 28 special-status wildlife species identified, only white-tailed kite (*Elanus leucurus*) and purple martin (*Progne subis*) were determined to likely have potential to occur on-site. The project site also contains suitable nesting trees for Swainson's hawk (*Buteo swainsoni*); however, this species was determined to be unlikely to occur due to the lack of suitable foraging habitat within the project site as well as the presence of more favorable habitat within the vicinity of the project site. No special-status wildlife were observed during the December 7, 2022, habitat assessment.

California Fish and Game Code Section 3503 protects most birds and their nests. The federal Migratory Bird Treaty Act (MBTA) of 1918 (16 United States Code [USC] 703–711) also protects most birds and their nests, including most non-migratory birds in California. The project site contains many large native oak trees, ornamental trees, and human-made structures that could provide potential nesting habitat for many species of birds. Several inactive bird nests were

[25] SWCA Environmental Consultants (SWCA). 2023. *Biological Resources Evaluation for the Renfree Field Renovation Project, Sacramento, Sacramento County, California*. Prepared for City of Sacramento. May. Included as **Appendix C**.

[26] Ibid.

observed within the 60-foot-tall light poles and large oak trees surrounding Renfree Field during the habitat assessment.

Several yellow-billed magpie (*Pica nuttallii*) nests were observed within the light poles and large oak trees surrounding the existing baseball field. Yellow-billed magpies are known to often reuse nests from previous years, especially for within-season re-nesting attempts. Therefore, there is high potential that some if not all these nests may be reoccupied during the next nesting season (February 15–September 15). Other bird species protected under the MBTA, such as killdeer (*Charadrius vociferus*) and mourning dove (*Zenaida macroura*), are known to nest on the ground, even in disturbed areas which are also present in the project area.[27]

Burrowing owls (*Athene cunicularia)* typically inhabit open, dry annual or perennial grasslands. Their habitat is dependent on burrowing mammals. Burrowing owls are unlikely to occur in the project area. While there is suitable grassland within the project area and adjacent areas, no suitable small mammal burrows were observed. [28]

Waters and Wetlands

The project site does not contain any wetlands or waters that could potentially be considered jurisdictional by the USACE, RWQCB, or CDFW. Valley oak riparian woodland borders Arcade Creek north of the project site. The project site also borders the riparian area of Owl Creek, which is a tributary to Arcade Creek, to the west. Because Arcade and Owl Creeks are likely jurisdictional waters of the United States and state, impacts to riparian habitat associated with these features would likely be regulated by CDFW pursuant to California Fish and Game Code Sections 1600 through 1607. However, the proposed construction activities will avoid these riparian areas as they lie outside of the proposed development footprint.

Sensitive Natural Communities

As mentioned above, the project site contains approximately one acre of valley oak riparian woodland habitat along its northern and western edges bordering Arcade and Owl Creeks, respectively. The project site is not currently included in any habitat conservation plan or natural community conservation plan. Additionally, the project site contains 0.72 acre of valley oak woodland along its eastern edge. These natural communities are considered sensitive by the CDFW.[29] However, the proposed project activities will avoid these sensitive habitats as they lie outside of the proposed development footprint.

Protected Trees

The *Renfree Field at Del Paso Park Project Arborist Report*[30] was prepared for the project site in January 2023 (included as an appendix to the BRE in IS/MND **Appendix C**).[31] According to the Arborist Report, the project site contains 111 trees within or immediately adjacent to the

[27] SWCA Environmental Consultants (SWCA). 2023. *Biological Resources Evaluation for the Renfree Field Renovation Project, Sacramento, Sacramento County, California*. Prepared for City of Sacramento. May. Included as **Appendix C**.

[28] SWCA Environmental Consultants (SWCA). 2023. *Biological Resources Evaluation for the Renfree Field Renovation Project, Sacramento, Sacramento County, California*. Prepared for City of Sacramento. May. Included as **Appendix C**.

[29] California Department of Fish and Wildlife (CDFW). 2022. California Natural Community List. Sacramento, California: CDFW Natural Heritage Division, CNDDB. Available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline. Updated August.

[30] DUDEK. 2023. *Renfree Field at Del Paso Park Project Arborist Report*. Prepared for City of Sacramento Youth, Parks, and Community Enrichment Park Planning and Development. January. Included as an appendix to **Appendix C**.

[31] SWCA Environmental Consultants (SWCA). 2023. *Biological Resources Evaluation for the Renfree Field Renovation Project, Sacramento, Sacramento County, California*. Prepared for City of Sacramento. May. Included as **Appendix C**.

project site boundaries. All 111 trees found within the project area meet the City's criteria for a "City Tree" as defined in City Code Section 12.56.020. The City Code protects all trees where the trunk is either wholly or partially located on City property or City right-of-way as a "City Tree".[32]

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, 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 those species that are:

- Listed as endangered or threatened under the federal Endangered Species Act (FESA) (or formally proposed for, or candidates for, listing);
- Listed as endangered or threatened under the California Endangered Species Act (CESA) (or proposed for listing);
- Designated as endangered or rare, pursuant to the California Fish and Game Code (Section 1901);
- Designated as fully protected, pursuant to the California Fish and Game Code (Sections 3511, 4700, or 5050);
- Designated as species of concern by the USFWS, or as a Species of Special Concern (SSC) to the CDFW; and
- Plants or animals that meet the definition of rare or endangered under CEQA.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

Chapter 4.3 of the Master EIR evaluated the effects of the 2035 General Plan on biological resources within the 2035 General Plan policy area. The Master EIR identified potential impacts in terms of degradation of the quality of the environment or reduction of habitat or population below self-sustaining levels of special-status birds, through the loss of both nesting and foraging habitat.

Policies in the 2035 General Plan were identified as mitigating the effects of development that could occur under the provisions of the 2035 General Plan. Policy ER 2.1.5 calls for the City to

[32] City of Sacramento. 2016. An Ordinance Amending Sections 2.62.030 and 8.04.100, Deleting and Adding Chapter 12.56, and Deleting Chapters 12.60 and 12.64 of the Sacramento City Code, Relating to Trees. Sacramento City Council Ordinance 2016-0026. August 4. Available at Microsoft Word - OR2016-0026 Item 14 2016-00705 1Tree Ordinance Clean (cityofsacramento.org). Accessed August 11, 2023.

preserve the ecological integrity of creek corridors and other riparian resources; Policy ER 2.1.10 requires the City to consider the potential impact on sensitive plants for each project and to require pre-construction surveys when appropriate; and Policy ER 2.1.11 requires the City to coordinate its actions with those of the USFWS, CDFW, and other agencies in the protection of resources. General Plan Policy ER 3.1.3 requires the City to preserve trees of significance.

The Master EIR concluded that the cumulative effects of development that could occur under the 2035 General Plan would be less than significant as they related to effects on special-status plant species (Impact 4.3-1), reduction of habitat for special-status invertebrates (Impact 4.3-2), loss of habitat for special-status birds (Impact 4.3-3), loss of habitat for special status amphibians and reptiles (Impact 4.3-4), loss of habitat for special-status mammals (Impact 4.3-4), special-status fish (Impact 4.3-6), and, in general, loss of riparian habitat, wetlands and sensitive natural communities such as elderberry savannah, and trees (Impacts 4.3-7–4.3-10). The contribution to the regional loss of special-status species or their habitat was found to be significant and unavoidable (Impact 4.3-11).

General Plan Policies that would apply to the proposed project include the following:

- **Policy ER 1.1.7: Construction Site Impacts.** The City shall minimize disturbances of natural water bodies and natural drainage systems, protect areas of disturbance from erosion and sediment loss, and comply with the City's erosion and sediment control ordinance and stormwater management and discharge control ordinance.
- **Policy ER 2.1.2: Conservation of Open Space.** The City shall continue to preserve, protect, and provide appropriate access to designated open space areas along the American and Sacramento Rivers, floodways, and undevelopable floodplains, provided access would not disturb sensitive habitats or species.
- **Policy ER 2.1.5: Riparian Habitat Integrity.** The City shall preserve the ecological integrity of creek corridors, canals, and drainage ditches that support riparian resources by preserving native plants and, to the extent feasible, removing invasive non-native plants. If preservation is not feasible, adverse impacts on riparian habitat shall be mitigated by the preservation and/or restoration of this habitat in compliance with federal and state regulations or at a minimum 1:1 ratio, in perpetuity.
- **Policy ER 2.1.6: Wetland Protection.** The City shall preserve and protect wetland resources including creeks, rivers, ponds, marshes, vernal pools, and other seasonal wetlands, to the extent feasible. If not feasible, the mitigation of all adverse impacts on wetland resources shall be required in compliance with federal and state regulations protecting wetland resources, and if applicable, threatened or endangered species. Additionally, the City shall require either on- or off-site permanent preservation of an equivalent amount of wetland habitat to ensure no-net-loss of value and/or function.
- **Policy ER 2.1.7: Annual Grasslands.** The City shall preserve and protect native grasslands and vernal pools that provide habitat for rare and endangered species. If not feasible, the mitigation of all adverse impacts on annual grasslands shall comply with federal and state regulations protecting foraging habitat for those species known to utilize this habitat.
- **Policy ER 2.1.8: Oak Woodlands.** The City shall preserve and protect oak woodlands, heritage oaks, and/or significant stands of oak trees in the city that provide habitat for common native, and special-status wildlife species, and shall address all adverse impacts on oak woodlands in accordance with the City's Heritage Tree Ordinance.

- **Policy ER 2.1.10: Habitat Assessments and Impact Compensation.** The City shall consider the potential impact on sensitive plants and wildlife for each project requiring discretionary approval. If site conditions are such that potential habitat for sensitive plant and/or wildlife species may be present, the City shall require habitat assessments, prepared by a qualified biologist, for sensitive plant and wildlife species. If the habitat assessment determines that suitable habitat for sensitive plant and/or wildlife species is present, then either (1) protocol-level surveys shall be conducted (where survey protocol has been established by a resource agency), or, in the absence of established survey protocol, a focused survey shall be conducted consistent with industry-recognized best practices; or (2) suitable habitat and presence of the species shall be assumed to occur within all potential habitat locations identified on the project site. Survey Reports shall be prepared and submitted to the City and the USFWS or CDFW (depending on the species) for further consultation and development of avoidance and/or mitigation measures consistent with federal and state law.
- **Policy ER 2.1.11: Agency Coordination.** The City shall coordinate with federal and state resource agencies (e.g., USACE, USFWS, CDFW) to protect areas containing rare or endangered species plants and animals.
- **Policy ER 3.1.3: Trees of Significance.** The City shall require the retention of City trees and Heritage Trees by promoting stewardship of such trees and ensuring that the design of development projects provides for the retention of these trees wherever possible. Where tree removal cannot be avoided, the City shall require tree replacement or appropriate remediation.

ANSWERS TO CHECKLIST QUESTIONS

The following discussion is based on the BRE and the Arborist Report prepared for the project (see **Appendix C**)[33].

Question A (Health Hazard or Materials that Would Pose a Hazard to Plants or Animals)

The use, handling, and storage of hazardous materials is regulated by both the federal Occupational Safety and Health Administration (OSHA) and the California Occupational Safety and Health Administration (Cal/OSHA). Cal/OSHA is responsible for developing and enforcing workplace safety regulations. At the local level, the Sacramento Environmental Management Department regulates hazardous materials within Sacramento County, including chemical storage containers, businesses that use hazardous materials, and hazardous waste management. The use and storage of hazardous materials is regulated by City Code Section 8.64.[34] Section 8.64.040 establishes regulation related to the designation of hazardous materials.

The project would replace the baseball field with two baseball fields and a 210-foot by 330-foot soccer field. The northern portion of the existing western parking lot would be redesigned to include a full-sized asphalt basketball court and four pickleball courts. Associated infrastructure such as bleachers, bullpens, shaded dugouts, lighting, and connecting sidewalks would be replaced. The current use of the site as a recreational facility 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

[33] SWCA Environmental Consultants (SWCA). 2023. *Biological Resources Evaluation for the Renfree Field Renovation Project, Sacramento, Sacramento County, California*. Prepared for City of Sacramento. May. Included as **Appendix C**.

[34] Sacramento City Code, Section 8.64, Hazardous Materials Disclosure. Available at: https://library.qcode.us/lib/sacramento_ca/pub/city_code/item/title_8-chapter_8_64. Accessed June 2022.

chemicals may be used on-site as part of routine maintenance and during construction activities.

Construction activities would be governed by a Stormwater Pollution Prevention Plan (SWPPP) to ensure that hazardous materials such as fuel for construction vehicles are properly controlled and managed in accordance with City regulations. Due to the regulations of cleaning products and the amount utilized on the project 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 plan 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, and the project would result in ***no additional significant environmental effects*** beyond what was previously anticipated in the Master EIR.

Question B (Sensitive Habitats and Special-Status Species)

SWCA conducted a habitat assessment of the project site in compliance with 2035 General Plan Policy ER 2.1.10 in the Environmental Resources section, which requires the completion of a habitat survey. Policy ER 2.1.10 requirements related to potential mitigation are discussed below.

Special-Status Plants

As noted above, no special-status plant species recorded in the project vicinity are likely to occur on-site and were not observed during the habitat assessment conducted by SWCA. Thus, the proposed development would not result in adverse effects to special-status plants.

Riparian vegetation would not be affected by project lighting. Lighting would be turned off by 10:00 pm when the park closes.

Special-Status Wildlife

The many large native oak and ornamental trees present on-site may provide suitable nesting habitat for white-tailed kite, purple martin, and Swanson's hawk; however, the project site does not contain suitable foraging habitat for white-tailed kite or Swainson's hawk. Although marginally suitable foraging habitat may occur for these species within adjacent areas of Del Paso Regional Park, east and west of the project site, the areas to the north and south surrounding the project site are largely urbanized and do not provide optimal foraging conditions for these species. There are 10 CNDDB occurrences of white-tailed kite and five CNDDB occurrences of Swainson's hawk within 5 miles of the project site. However, these vast majority of occurrences for both species are located along larger river systems adjacent to agricultural fields and undisturbed grassland habitat suitable for foraging.[35] Given the presence of more suitable habitat for this species within the vicinity of the project site, white-tailed kite and Swainson's hawk are unlikely to occur within the project site.

In addition to the bird species discussed above, the project site's native oak and ornamental trees and human-made structures could provide potential foraging or nesting habitat for many different MBTA-protected bird species. Additionally, the vacant field west of Bridge Road (i.e., the Owl Creek Terrace) may provide suitable habitat for ground nesting birds protected under

[35] California Department of Fish and Wildlife (CDFW). 2022. Biogeographic Information and Observation System: BIOS Viewer Version 5.2.14. Available at: http://www.dfg.ca.gov/biogeodata/bios/. Accessed December 2022.

the MBTA. Implementation of the proposed project would involve ground-disturbing activities that would include the removal of up to 21 trees as well as the removal of existing infrastructure such as light fixtures. If construction occurs during the nesting season (February 15–September 15), then the proposed project could result in adverse effects to nesting birds without implementation of restrictive mitigation measures.

Conclusion

In the absence of preconstruction surveys, implementation of the proposed project could result in a potentially significant impact to purple martin and other nesting birds protected by the MBTA, but the effect can be mitigated to a less-than-significant level. As such, the proposed project would be required to implement **Mitigation Measure BIO-1** to reduce impacts resulting from implementation of the proposed project on special-status species to a less-than-significant level. **Mitigation Measure BIO-1** would fulfill the requirements of General Plan Policy ER 2.1.10 related to mitigating potential impacts to special-status species in compliance with federal and state laws. Therefore, with implementation of mitigation measures, the proposed project would result in ***less than significant environmental effects.***

Question C (Species of Special Concern to Agencies or Natural Resource Organizations)

Protected Trees

According to the Arborist Report (included as an attachment to the BRE in **Appendix C**),[36] the proposed project activities will impact approximately 56 of the 111 City Trees present within the project site. The Arborist Report recommends that 30 City Trees be removed due to poor health, structural defects that have potential to become hazardous, or a location within the development footprint. Of the 30 trees recommended for removal, 13 are located within the project footprint and would not likely survive development of the project; the remaining 17 trees are located outside the project footprint. However, the City has determined that only 21 trees would need to be removed to accommodate the proposed project. The removal of these 21 trees would require the City to submit public notice prior to removing any of these trees and will require that the City plant replacement trees to mitigate the loss of the removed trees.

The Director of the Department of Parks and Recreation is ultimately responsible for deciding mitigations and the City Code would plant replacement trees at an inch for inch ratio. Therefore, the City will need to plant at least 21 replacement trees or a number of trees with a total DSH equal to the 21 trees removed in order to accommodate the project. Construction is expected to occur within the Tree Protection Zone (TPZ) of 33 additional City Trees. These trees are anticipated to experience low or moderate impacts as result of the project development and may require trimming and/or root pruning to prevent unnecessary damage to the tree during project development.

Consistent with General Plan Policy ER 3.1.3 and the City's Tree Preservation Ordinance, **Mitigation Measure BIO-2** requires the City to obtain a Tree Permit and submit public notice prior to removal or the commencement of construction activities within the TPZ of any City Tree and requires that the City to plant replacement trees to mitigate the loss of the removed trees.[37] In addition to measures described above, **Mitigation Measure BIO-3** shall be implemented in

[36] SWCA Environmental Consultants (SWCA). 2023. *Biological Resources Evaluation for the Renfree Field Renovation Project, Sacramento, Sacramento County, California*. Prepared for City of Sacramento. May. Included as **Appendix C**.

[37] City of Sacramento. 2016. An Ordinance Amending Sections 2.62.030 And 8.04.100, Deleting And Adding Chapter 12.56, And Deleting Chapters 12.60 And 12.64 Of The Sacramento City Code, Relating To Trees Sacramento City Council Ordinance 2016-0026. August 4, 2016.

order to prevent damage to the remaining City Trees present on-site that have been identified for preservation. **Mitigation Measure BIO-3** requires the City to install protective measures around these trees, including protective fencing and signage to prevent construction storage or parking from occurring within their TPZ as described in Section 6.3 of the Arborist Report (included as an appendix to the BRE in IS/MND **Appendix C**).[38] The implementation of these measures ensures that the proposed project would comply with General Plan Policy ER 3.1.3 and that the proposed project would result in ***less-than-significant environmental effects***.

MITIGATION MEASURES

Implementation of the following mitigation measures would reduce impacts related to biological resources to a *less-than-significant* level.

BIO-1 Birds Protected by the MBTA or the California Fish and Game Code

If construction is to begin during the nesting season (February 1–August 31), then a preconstruction survey for protecting nesting birds shall be conducted by a qualified biologist. If a 15-day lapse in construction work occurs during the nesting season, then another preconstruction survey shall be conducted prior to the continuation of work. Results of the preconstruction surveys shall then be submitted to the City Planning Division for review.

The preconstruction survey shall be conducted within 15 days prior to the start of construction. The survey shall cover the project site and areas within 500 feet for birds of prey, and within 100 feet for other bird nests. Private and inaccessible areas shall be surveyed from accessible public areas with binoculars. If no active nests of a bird of prey, MBTA-protected bird, or other CDFW-protected bird are found, then no further avoidance and minimization measures are required. If active nests are found, they shall be avoided and protected as follows:

- If a bird of prey nest is found, a 250-foot-radius Environmentally Sensitive Area (ESA) shall be established around the nest.
- If an active nest of another (non-bird of prey) bird is found, a 50-foot-radius ESA shall be established around the nest.

Construction activity shall not be allowed in an ESA until the biologist determines that either: 1) the nest is no longer active; 2) monitoring determines a small ESA buffer shall protect the active nest; or 3) monitoring determines that no disturbance to the nest is occurring. Construction buffers may be reduced in size or removed entirely if the qualified biologist determines that construction activities shall not disturb nesting activities or contribute to nest abandonment.

BIO-2 Tree Removal and Replacement Requirements

Prior to the removal of, or the commencement of construction activities within the TPZ of any City Tree, the City shall obtain a Tree Permit and submit public notice. The City shall provide justification for the removal of trees that measure 4 inches in diameter or greater at DSH.

[38] SWCA Environmental Consultants (SWCA). 2023. *Biological Resources Evaluation for the Renfree Field Renovation Project, Sacramento, Sacramento County, California*. Prepared for City of Sacramento. May. Included as **Appendix C**.

The project applicant shall plant the required number of replacement trees as determined by the Director of the City Department of Parks and Recreation.

BIO-3 Tree Protection Measures

In order to minimize and avoid damage to the trees identified for preservation, the City shall install/implement protective measures as described in Section 7.3 of the Arborist Report prepared for the project:

- **Protective Fencing:** Tree protection fencing shall be composed of 6-foot-tall chain-link fencing. The fencing should be supported by steel posts either driven into the ground or supported on weighted steel feet.
- **Signage:** Signs shall be installed along the outer circumference of the TPZ or along the boundary of approved construction that identify that the nearby tree(s) are identified as trees that shall be preserved and are protected by City Code Section 12.56. Signs shall clearly state the following information:
    - The nearby tree(s) is protected.
    - Only approved construction activities are allowed near the tree.
    - Parking vehicles, storing construction materials, and dumping waste is prohibited near the tree(s)
    - Signs can be posted on protective fencing or small posts installed into the ground.
- **Irrigation:** Trees identified for preservation shall be watered during construction if it has been more than 30 days since the last measurable precipitation. A 6-inch-tall berm may be constructed around the preserved trees or clusters of preserved trees to serve as a basin to retain supplemental water. This berm may be constructed out of earth or the mulch. The berm shall be constructed at approximately 10 feet from the trunk of the tree. Supplemental water shall be applied every 2 weeks and in sufficient quantity to fill water up to the top of the berm. Irrigation water may be applied by whatever means are most practical including hand watering or using water tanker trucks already on site to control dust.
- **Tree Trimming:** Trees along the baseball field may require trimming to create adequate space for the installation of the backstop and fence along the south side of the field. All tree pruning shall be performed by an International Society of Arboriculture (ISA)-certified arborist according to tree trimming guidelines published by the ISA and following American National Standards Institute (ANSI) A300 standards.
- **Root Pruning:** The grading of the undeveloped field west of Bridge Road has the highest potential for encountering tree roots 2 inches in diameter or greater. For all tree roots encountered during project construction activities, roots shall be cut with a sharp instrument such as hand pruners or a Sawzall and cut cleanly at the edge of the approved construction. Tree roots shall not be twisted, ripped, or broken off by construction equipment. Roots greater than two inches in diameter shall be evaluated by the ISA-certified arborist prior to pruning.

- **Monitoring:** An ISA-certified arborist shall visit the project site periodically during construction to assess the status of the preserved trees and check on the tree protection measures that were implemented. If feasible, an arborist shall be present after the following construction-related events: installation of tree fencing, during excavation activities, grading activities, and during the installation of parking lots and driveways near project trees.

FINDINGS

Implementation of **Mitigation Measure BIO-1** would ensure that preconstruction surveys are conducted to determine the presence or absence of special-status species within the project site. Contingent upon the findings of the preconstruction surveys, further steps may be necessary to ensure that project implementation would not result in impacts to special-status species, as discussed in **Mitigation Measure BIO-1**. **Mitigation Measures BIO-2** and **BIO-3** would ensure the project is consistent with General Plan Policy ER 3.1.3 and the City's Tree Preservation Ordinance. Thus, all additional significant environmental effects of the proposed project relating to Biological Resources can be mitigated to less-than-significant levels, and implementation of the proposed project would result in ***no additional significant environmental effects*** beyond what has been previously analyzed in the Master EIR.

Cultural Resources

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
4. CULTURAL RESOURCES Would the project:			
A) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?			X
B) Cause a substantial adverse change in the significance of an archaeological resource as defined in § 15064.5?		X	
C) Directly or indirectly destroy a unique paleontological resource?		X	
D) Disturb any human remains?		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 remains 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. One of the tools used to identify the potential for cultural resources to be present

in the project area is the *Sacramento 2035 General Plan Background Report*.[39] High sensitivity areas may be found in other areas related to the ancient flows of the rivers, with differing meanders than found today. Recent discoveries during infill construction in downtown Sacramento have shown that the downtown area is highly sensitive for both historic period archaeological - and pre-contact indigenous resources. Native American burials and artifacts were found in 2005 during construction of the New City Hall and historic-period archaeological resources are abundant downtown due to the evolving development of the area and, in part, to the raising of the surface street level in the 1860s and 1870s, which created basements out of the first floors of many buildings.

Sacramento's built environment has also been studied and documented extensively, identifying hundreds of historical resources throughout the City. As outlined in the 2035 General Plan Background Report, the city features a series of individual resources and collective resources in the form of historic districts, which are listed, or considered eligible for listing, in the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the Sacramento Register of Historic and Cultural Resources (Sacramento Register), and a variety of other landmark designation programs, including National Historic Landmarks, California Historical Landmarks, and California Points of Historical Interest. Although the concentration of these resources is located within Downtown and the Central City grid, the City continues to support and review documentation related to surveying and inventorying historic resources throughout the entirety of Sacramento.

For full ethnographic, pre-contact, and historic contexts relevant to the project site, please refer to the appended *Cultural Resources Technical Report for the Renfree Field Improvements Project, Sacramento, Sacramento County, California* (CRTR) (**Appendix D**).[40]

BACKGROUND RESEARCH

The following discussion is based on the CRTR prepared for the project (see **Appendix D**).[41] On December 5, 2022, SWCA performed an in-house records search of the California Historical Resources Information System (CHRIS) at the North Central Information Center (NCIC) located at California State University, Sacramento. The search included previous cultural resource studies and archaeological resources and historical resources within the project site and surrounding 0.25-mile area. The purpose of the CHRIS records search is to identify whether any archaeological resources have been documented in the project site and assess the potential for undocumented resources to be present by comparison to adjacent areas. Per the records search results (NCIC File No.: SAC-22-235), seven previously prepared cultural resource studies were identified within the 0.25-mile radius of the project site. Of these, none overlapped directly with the project site, but did provide beneficial supporting information and context for further research.

The records search also identified two previously recorded resources within the 0.25-mile radius. The first resource identified was Del Paso Regional Park (P-34-004267), within which Renfree Field and the project area are entirely located. The resource was partially documented by Michael Brandman Associates on August 26, 2010, as part of the *Section 106 Cultural Resource Impact Analysis for the Del Paso Regional Park Redevelopment Project*. This study

[39] City of Sacramento. 2015. *Sacramento 2035 General Plan Background Report, Chapter 6: Environmental Resources*. Adopted March 3. Available at: http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/General-Plan/2035-GP/Chapter-6---Environmental-Resources.pdf?la=en. Accessed April 2023.

[40] SWCA Environmental Consultants (SWCA). 2023. *Cultural Resources Technical Report for the Renfree Field Renovation Project, Sacramento, Sacramento County, California*. Prepared for City of Sacramento. August. Included as **Appendix D**.

[41] Ibid.

focused primarily on the northeastern segment of the park, where trail improvements were proposed, and the parks period of initial development spanning from 1911 to 1939. The documentation for Del Paso Regional Park ultimately includes a California Historical Resource Status Code of 6U, meaning that the property was determined ineligible for listing in the NRHP through the National Historic Preservation Act (NHPA) Section 106 consultation process. The Del Paso Regional Park in its entirety was not evaluated for historical significance, particularly for its development in the post-war period. The second resource identified within the vicinity of the project was a pre-contact site (P-34-0002228), which was found outside the project site in 1955; documentation illustrates that attempts to revisit the site were conducted in 2001, but the site could not be relocated.

SWCA contacted the California Native American Heritage Commission (NAHC) and requested a search of the Sacred Lands Files (SLF) on November 22, 2022. On December 13, 2022, the NAHC responded stating that the SLF search had produced positive results, meaning that there are known sites of sensitivity within the project vicinity. The NAHC requested that the United Auburn Indian Community (UAIC) of the Auburn Rancheria be contacted for information, in addition to providing a comprehensive list of various tribal representatives that may retain further knowledge of cultural resources within the project vicinity. On January 27, 2023, SWCA submitted letters to the 10 tribal representatives included within the list provided by NAHC. These letters provided a general project description, associated project location maps, and a request for additional information regarding potential cultural resources located within the project area. Voicemails were left with nearly all the tribal contacts, except for one where a conversation occurred. The representative stated that the vicinity has heightened pre-contact sensitivities, stated that special consideration should be paid to areas where depth of disturbance exceeds 3 feet below grade, and identified a Most Likely Descendant (MLD).

SWCA reviewed property-specific historical information and ethnographic literature to identify relevant background for the project area and its historical inhabitants. Research focused on a variety of primary and secondary materials, including historical maps, aerial photographs, ethnographic reports, and technical reports prepared for the project. Sources and repositories consulted include the Bureau of Land Management (BLM) General Land Office (GLO) and USGS for historical topographic maps and geological surveys of the area, the Center for Sacramento History, the City of Sacramento Public Library, and a variety of online source materials, including the Online Archive of California, Newspapers.com, and Ancestry.com, among others.

On December 7, 2022, SWCA's qualified archaeologists conducted a pedestrian survey of the 8.33-acre project site. The pedestrian survey consisted of systematic surface inspection of all areas with transects walked at 20-meter intervals or less to ensure that any surface-exposed artifacts and sites could be identified. No archaeological resources were observed within the project site. However, the positive NAHC SLF search results and NCIC records search suggest that archaeological and significant tribal resources may be located within the project site and its vicinity.

During the December 7, 2022, site visit, a qualified architectural historian also documented elements of the built environment within the project area, including the baseball field and facilities at Renfree Field, as well as the adjacent landscape features and site furnishings. SWCA then prepared relevant historic contexts and a robust property history using information gathered during the research phases of the project to inform an evaluation of historical significance per the eligibility criteria for listing in the CRHR and Sacramento Register. The evaluation found that Renfree Field does not possess sufficient historical significance to qualify

as eligible for listing the CRHR, nor the Sacramento Register, and therefore does not qualify as a historical resource for the purposes of CEQA.

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 State 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 archaeological and historic resources. See Master EIR 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); City-led consultation with appropriate organizations and individuals, including the NAHC and tribal representatives (Policy HCR 2.1.3); consideration of cultural resources when developing plans and studies (Policy HCR 2.1.6); encouraging maintenance of historic resources (Policy HCR 2.1.7); maintenance of City-owned resources in a manner that is consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties (Policy HCR 2.1.9); early consultation with owners and land developers to minimize effects (Policy HCR 2.1.10); ensuring compatibility of new construction within historic contexts and settings (Policy HCR 2.1.11); promotion of preserving, rehabilitating, or restoring contextual landscape/site features (Policy HCR 2.1.12); encouragement of adaptive reuse of historic resources (Policy HCR 2.1.14); and ensuring compliance with protocols that "protect or mitigate impacts to archaeological and cultural resources, including pre-contact resources" (Policy HCR 2.1.16). Demolition of historic resources is deemed a last resort, only in instances where rehabilitation is not feasible and issues surrounding health, safety, and public welfare outweigh the loss of the resource (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 and 4.4-2)

ANSWERS TO CHECKLIST QUESTIONS

Question A (Historic Resources)

The 8.33-acre project site is located entirely within the Del Paso Regional Park, which is an approximately 630-acre, multi-use park that has been in various stages of development and redevelopment since the early twentieth century. The proposed project includes the replacement of the current Renfree Field baseball facilities—constructed in 1968 and commemoratively named for the City's parks superintendent during the 1950s and 1960s—with two new baseball fields, a soccer field, and various facility and site improvements, such as new

lighting, sidewalks, alterations to the surface parking lot, and construction of new basketball and pickleball courts.

As noted above, the records search results from the NCIC identified that Del Paso Regional Park was previously documented and assessed for historical significance. Although this documentation examined only a segment at the northeast corner of the park, this study area correlates directly with the project site. The documentation focused on Del Paso Regional Park as a singular property, particularly its development spanning from 1911 to 1939. As such, Renfree Field and other elements within the project site were noted, but not assessed for historical significance. As outlined in the CRTR (see **Appendix D**),[42] Renfree Field has been subsequently evaluated for potential significance using the eligibility criteria for the CRHR and Sacramento Register. The evaluation found that Renfree Field lacks historical significance under any of the criteria and does not qualify as eligible for listing in either the CRHR or Sacramento Register. As such, the property does not qualify as a historical resource for the purposes of environmental review under CEQA.

With regards to the broader Del Paso Regional Park, the original 2010 documentation found that the property is ineligible for listing in the NRHP due to lack of historical significance. Specifically, the property was found to not be significantly associated with the patterns of development in Sacramento, including the original Rancho Del Paso and local development of parks (Criterion A); exhibiting association with any individuals (Criterion B); reflective of a cohesive design, plan, the work of a master landscape architect (Criterion C); or likely to yield significance information (Criterion D). While the identification efforts in support of the project did not include an intensive survey of Del Paso Regional Park in its entirety, examine the property beyond the 1911-1939 period of development, or use the eligibility criteria for listing in the CRHR or Sacramento Register, the original evaluation and assessment of Del Paso Regional Park is generally consistent with the frameworks for assessing historical significance and further eligibility. As such, Del Paso Regional Park does not appear to be a historical resource for the purposes of environmental review under CEQA. However, if future study and documentation was to find that Del Paso Regional Park does exhibit historical significance, the project is unlikely to adversely impact the property. Specifically, the project involves the redevelopment of limited recreational and support facilities. The project will result in property retaining its historic and contemporary use. The addition of new playing fields, support structures and infrastructure, and other improvements will be consistent with any perceived historic character and would not alter any potential aspect of historical integrity. Therefore, the project will have a ***less-than-significant*** impact on historical resources as defined under State CEQA Guidelines Section 15064.5.

Question B and C (Archaeology and Paleontology)

Although the proposed project site is located away from Downtown Sacramento, the American River, and the Sacramento River, and is not adjacent to other high or moderate sensitivity units illustrated in the Archaeological Sensitivity map provided within the 2035 General Plan Background Report,[43] the project site is directly south of Arcade Creek, the vicinity of which would qualify as "moderate sensitivity." Additional research, including the NCIC records search and a review of the SLF by the NAHC, revealed that a previously recorded archaeological site

[42] SWCA Environmental Consultants (SWCA). 2023. *Cultural Resources Technical Report for the Renfree Field Renovation Project, Sacramento, Sacramento County, California*. Prepared for City of Sacramento. August. Included as **Appendix D**.

[43] City of Sacramento. 2015. *Sacramento 2035 General Plan Background Report, Chapter 6: Environmental Resources*. Figure 6.4-1: Archaeological Sensitivity. Adopted March 3. Available at: http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/General-Plan/2035-GP/Chapter-6---Environmental-Resources.pdf?la=en. Accessed April 2023.

was found within the Arcade Creek area and that significant tribal resources are located within the vicinity of the project site. Collectively, this suggests that the project site and its vicinity have a "high sensitivity" for archaeological resources as defined under CEQA.

To reduce potential impacts to archaeological resources, the proposed project would adhere to applicable regulatory compliance measures intended to reduce and avoid creating significant impacts to archaeological and paleontological resources in the event of a discovery during grading, excavation, or other ground-disturbing activities. These measures include 2035 General Plan Policy HCR 2.12 (Applicable Laws and Regulations), HCR 2.1.16 (Archaeological & Cultural Resources), and HCR 2.1.17 (Preservation Project Review).

First, all contractor staff shall be trained with regards to general identification of cultural resources, sensitivity related to tribal resources, and all relevant inadvertent discover protocols. Additionally, all ground disturbing activities related to construction of the project should be monitored by a qualified archaeologist and an appointed Native American monitor. If resources are exposed during ground disturbance, work in the immediate vicinity of the find must stop until a qualified archaeologist can evaluate the significance of the find. Ground-disturbing activities may continue in other areas, although construction monitoring performed by a qualified archaeologist and Native American monitor should accompany these activities. If the discovery proves significant under CEQA (Section 15064.5(f); PRC Section 21082), additional work such as testing or data recovery may be warranted. Should any pre-contact or historical Native American artifacts be encountered, tribal representatives identified by the NAHC should be notified immediately by the City and further consultation will be required.

To ensure a less-than-significant impact on historical or archaeological resource in the event of an accidental discovery implementation of the proposed project shall also require implementation of **Mitigation Measures CUL-1**, **CUL-2**, and **CUL-3**. Therefore, the proposed project would have ***no additional significant environmental effects*** beyond what has been previously analyzed in the Master EIR.

Question D (Human Remains)

While no known burial sites are known to exist, the discovery of human remains is always a possibility during ground-disturbing activities. Section 7050.5 of the California Health and Safety Code states that no further disturbance shall occur until the Sacramento County Coroner has determined the origin and requisite disposition of discovered remains pursuant to PRC 5097.98. The Sacramento County Coroner must be notified of the find immediately. If the human remains are determined to be Native American, the coroner will notify the NAHC. As noted in Question A, a Tribal representative stated that the Arcade Creek area has heightened pre-contact sensitivities, stated that special consideration should be paid to areas where depth of disturbance exceeds 3 feet below grade, and identified an MLD.

The NAHC will immediately notify the person it believes to be the MLD of the deceased Native American. The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and non-destructive analysis of human remains and items associated with Native American burials.

To ensure a less-than-significant impact in the event of an accidental discovery, **Mitigation Measures CUL-1, CUL-2**, **CUL-3**, and **CUL-4** shall be implemented. Therefore, implementation of the proposed project would have ***no additional significant environmental effects*** beyond what has been previously analyzed in the Master EIR.

MITIGATION MEASURES

Implementation of the following mitigation measures would reduce impacts related to cultural resources to a *less-than-significant* level.

CUL-1 Follow Protocol for the Preconstruction Cultural Resource Sensitivity Training

Prior to the start of any subsurface excavations that would extend beyond previously disturbed soils, the City shall require the contractor to provide a cultural and tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]) for all personnel involved in project construction, including field consultants and construction workers. The training shall be developed in coordination with qualified cultural resources specialists. The City may invite Native American tribal representatives from interested culturally affiliated Native American tribes to participate. The training shall be conducted before any construction activities begin on the project site. The program shall 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 WEAP training shall also describe appropriate avoidance and minimization measures for resources that have the potential to be located on the project site and shall outline what to do and who to contact if any potential tribal cultural resources or archaeological resources or artifacts are encountered.

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

CUL-2 Archaeological Construction Monitoring

A qualified archaeologist that meets the Secretary of the Interior's Professional Qualification Standards for archaeology and an approved Native American monitor shall be on-site to monitor for potential unknown archaeological resources in areas of heightened archaeological sensitivity during ground-disturbing construction activities. These areas of sensitivity are identified site wide as areas where the depth of excavation exceeds 3 feet, as well as any ground-disturbing activities exceeding 6 inches in areas located north of the current Renfree Field outfield, towards Arcade Creek. In the event that cultural materials are identified during monitoring, the qualified monitor and construction crew shall adhere to all relevant unanticipated discovery protocols.

CUL-3 Unanticipated Discovery Protocols

If buried cultural materials are encountered during construction, work shall be stopped immediately in that area until the archaeologist and Native American monitor can evaluate the nature and significance of the find. The City and identified Native American tribal representatives shall be notified immediately and appropriate next steps shall be enacted. Avoidance is the preferred treatment wherever feasible, although other treatments, including additional testing, excavation, data recovery,

and reburial, may be explored in close consultation with qualified City staff, consulting archaeologists, and representatives of Native American tribes.

Where further study, survey, and testing methods are required, a Testing and Data Recovery Plan shall be prepared by a qualified archaeologist and provided to the City and Native American tribal representatives for review and approval. All testing and data recovery efforts shall be documented in an Archaeological Resources Testing Report, which shall be submitted to the City. Only following the execution of the testing program, or through the approval by the City and Native American tribal representatives, shall construction resume. Construction monitoring shall continue throughout the duration of all ground-disturbing activities.

CUL-4 Unanticipated Discovery of Human Remains

In accordance with California Health and Safety Code Section 7050.5 and PRC Section 5097.98, if human remains are encountered during construction, all work shall be halted in the immediate vicinity (within 50 feet) of the find. If the on-site archaeological monitor, Native American monitor, and principal investigator suspect that a discovery includes human remains, the City and the Sacramento County Coroner shall be contacted immediately.

The Coroner would have 2 working days to examine the remains after being notified in accordance with California Health and Safety Code Section 7050.5. If the Coroner determines that the remains are Native American and are not subject to the Coroner's authority, the Coroner has 24 hours to notify the NAHC of the discovery.

The NAHC would immediately designate and notify the Native American MLD, who shall have 48 hours after being granted access to the location of the remains to inspect them and make recommendations for their treatment and disposition. Work shall be suspended in the area of the find until the landowner, in consultation with the Native American MLD, approves the proposed treatment of the human remains and any associated funerary objects. In addition, the City shall ensure that the remains are protected from damage or further disturbance of any sort until such decisions can be made and actions can be undertaken.

FINDINGS

Implementation of **Mitigation Measures CUL-1**, **CUL-2**, **CUL-3**, and **CUL-4** would provide protocols for construction monitoring activities, cultural resource sensitivity training for construction and contractor staff, and the unanticipated discovery of cultural resources, paleontological resources, and human remains. Thus, all additional significant environmental effects of the proposed project relating to Cultural Resources can be mitigated to less-than-significant levels, and implementation of the proposed project would result in ***no additional significant environmental effects*** beyond what has been previously analyzed in the Master EIR.

Energy

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
5. ENERGY Would the project:			
A) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation?			X
B) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X

ENVIRONMENTAL SETTING

Discussion in this section relies on the project-specific *Renfree Field Renovations Project Air Quality and Greenhouse Gas Technical Report*,[44] included as **Appendix B** in this IS/MND.

SMUD is a community-owned and not-for-profit utility that provides electric services to 900 square miles, including most of Sacramento County.[45] The Pacific Gas and Electric Company (PG&E) is an inventory-owned utility that provides electric and natural gas services to approximately 16 million people within a 70,000-square-mile service area in both northern and central California. SMUD is the primary electricity supplier, and PG&E is the primary natural gas supplier for the City and the project area.

Energy demand related to the proposed project would include energy directly consumed by equipment and vehicles used during project construction. Project operation would consume energy through electric facilities and lighting, and for routine maintenance activities.

Energy Policy and Conservation Act, and Corporate Average Fuel Economy Standards

The Energy Policy and Conservation Act of 1975 established nationwide fuel economy standards to conserve oil. Under this act, the National Highway Traffic Safety Administration (NHTSA) is responsible for revising existing fuel economy standards and establishing new vehicle economy standards. The Corporate Average Fuel Economy (CAFE) program was established to determine vehicle manufacturer compliance with the government's fuel economy standards. Three Energy Policy Acts have been passed, in 1992, 2005, and 2007, to reduce dependence on foreign petroleum, provide tax incentives for alternative fuels, and support energy conservation.

Energy Policy Act of 1992 and 2005

The Energy Policy Act of 1992 (1992 EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. The 1992 EPAct includes several parts intended to

[44] SWCA Environmental Consultants (SWCA). 2023. *Renfree Field Renovations Project Air Quality and Greenhouse Gas Technical Report*. Prepared for City of Sacramento. May. Included as **Appendix B**.

[45] City of Sacramento. 2023. Utility Services. Available at: https://www.cityofsacramento.org/Living-Here/Utility-Services. Accessed February 2023.

build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. The 1992 EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light-duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in the 1992 EPAct. Federal tax deductions are allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs. The Energy Policy Act of 2005 (2005 EPAct) provides renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act (EISA) of 2007 is designed to improve vehicle fuel economy and help reduce U.S. dependence on oil. It represents a major step forward in expanding the production of renewable fuels, reducing dependence on oil, and confronting global climate change. The EISA increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly five-fold increase over current levels, and reduces U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020—an increase in fuel economy standards of 40 percent.

By addressing renewable fuels and the CAFE standards, the EISA builds upon progress made by the 2005 EPAct in setting out a comprehensive national energy strategy for the twenty-first century.

State of California Energy Efficiency Action Plan

The 2019 California Energy Efficiency Action Plan has three primary goals for the state: double energy efficiency savings by 2030 relative to a 2015 base year (per Senate Bill [SB] 350), expand energy efficiency in low-income and disadvantaged communities, and reduce GHG emissions from buildings. This plan provides guiding principles and recommendations on how the state would achieve those goals. These recommendations include the following:

- Identifying funding sources that support energy efficiency programs,
- Identifying opportunities to improve energy efficiency through data analysis,
- Using program designs as a way to encourage increased energy efficiency on the consumer end,
- Improving energy efficiency through workforce education and training, and
- Supporting rulemaking and programs that incorporate energy demand flexibility and building decarbonization.

Transportation-Related Regulations

Various regulatory and planning efforts are aimed at reducing dependency on fossil fuels, increasing the use of alternative fuels, and improving California's vehicle fleet. SB 375 aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. The CARB, in consultation with the metropolitan planning organizations,

provides each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in their respective regions for 2020 and 2035.

Pursuant to AB 2076 (Chapter 936, Statutes of 2000), the CEC and CARB prepared and adopted a joint agency report in 2003—*Reducing California's Petroleum Dependence*[46]—which included recommendations to increase the use of alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita vehicle miles traveled (VMT).[47]

AB 1007 (Chapter 371, Statutes of 2005) required the CEC to prepare the State Alternative Fuels Plan to increase the use of alternative fuels in California.

In January 2012, the CARB approved the Advanced Clean Cars program, which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of zero-emission vehicles, into a single package of standards for vehicle model years 2017 through 2025. The program's zero-emission vehicle regulation requires battery, fuel cell, and/or plug-in hybrid electric vehicles to account for up to 15 percent of California's new vehicle sales by 2025.

On August 2, 2018, the NHTSA and EPA proposed the Safer Affordable Fuel-Efficient Vehicles Rule (SAFE Rule). Part One of the SAFE Rule revokes a waiver granted by the EPA to the State of California under Section 209 of the CAA to enforce more stringent emission standards for motor vehicles than those required by EPA for the explicit purpose of GHG emission reduction, and indirectly, criteria air pollutant and ozone precursor emission reduction. On March 31, 2020, Part Two of the SAFE Rule was published and would amend existing CAFE and tailpipe carbon dioxide (CO_2) emissions standards for passenger cars and light trucks and establish new standards covering model years 2021 through 2026.

GHG Reduction Regulations

Several regulatory measures, such as AB 32 and the Climate Change Scoping Plan, Executive Order (EO) B-30-15, SB 32, and AB 197, were enacted to reduce GHGs and have the co-benefit of reducing California's dependency on fossil fuels and making land use development and transportation systems more energy efficient.

Renewable Energy Regulations

SB X1-2 of 2011 requires that all California utilities generate 33 percent of their electricity from renewables by 2020. SB X1-2 also requires the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California. SB X1-2 mandates that renewables from these sources make up at least 50 percent of the total renewable energy for the 2011-2013 compliance period, at least 65 percent for the 2014-2016 compliance period, and at least 75 percent for 2016 and beyond.

SB 100, signed in September 2018, requires that all California utilities, including independently owned utilities, energy service providers, and community choice aggregators, supply 44 percent of retail sales from renewable resources by December 31, 2024, 50 percent of all electricity sold by December 31, 2026, 52 percent by December 31, 2027, and 60 percent by December 31,

[46] California Energy Commission (CEC) and California Air Resources Board (CARB). 2003. *Reducing California's Petroleum Dependence*. Available at: https://ww3.arb.ca.gov/fuels/carefinery/ab2076final.pdf. Accessed April 2022.

[47] Ibid.

2030. The law also requires that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

Structures built would be subject to Titles 20 and 24 of the CCR, which reduce demand for electrical energy by implementing energy-efficient standards for residential and non-residential buildings. The 2035 General Plan includes policies (see 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 2035 General Plan policies in Section 6.3 (page 6-3).[48] The discussion concluded that with implementation of the 2035 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 General Plan policies would reduce the potential impacts from construction of new energy production or transmission facilities to a less-than-significant level.

Sacramento Climate Action Plan

The Sacramento Climate Action Plan (CAP) was adopted on February 14, 2012, by the Sacramento City Council and was incorporated into the 2035 General Plan. The Sacramento CAP includes GHG emission reduction targets, strategies, and implementation measures developed to help the City reach these targets. Reduction strategies address GHG emissions associated with transportation and land use, energy, water, waste management and recycling, agriculture, and open space. The City of Sacramento is currently updating the Sacramento Climate Action and Adaptation Plan in tandem with the 2040 General Plan Update process. The full Draft Climate Action & Adaptation Plan (CAAP) and Draft 2040 General Plan were released on April 28, 2023, for an extended public review period that will run through August 2023.[49]

STANDARDS OF SIGNIFICANCE

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

- result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during project construction or operation; and/or
- conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

[48] City of Sacramento. 2014. *City of Sacramento 2035 General Plan Update Draft Master Environmental Impact Report*. August. Available at: http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/Environmental-Impact-Reports/2035-GP-Update/Public-Draft-MEIR081114.pdf?la=en. Accessed April 2023.

[49] City of Sacramento. 2022. *Sacramento Climate Action Plan Update*. Available at: https://www.cityofsacramento.org/Community-Development/Planning/Major-Projects/General-Plan/About-The-Project/Climate_Change. Accessed March 2023.

ANSWERS TO CHECKLIST QUESTIONS

Question A (Wasteful Consumption) and Question B (Conflict or Obstruct Plans)

The 2035 General Plan includes goals (see Energy Resources Goal U6.1) and related policies to support an increasing reliance on renewable energy to reduce Sacramento's dependence on non-renewable energy sources.[50] The 2035 General Plan includes policies (see Policies U 6.1.9 through 6.1.16) to encourage the spread of energy-efficient technology by offering rebates and other incentives to commercial and residential developers, and recruiting businesses that research and promote energy conservation and efficiency.

Policies U 6.1.6 through 6.1.8 focus on promoting the use of renewable resources, which would reduce the cumulative impacts associated with use of non-renewable energy sources. In addition, Policies 6.1.10 and 6.1.14 call for the City to work closely with utility providers and industries to promote new energy conservation technologies.

The Master EIR evaluated the potential impacts on energy and concluded that the effects would be less than significant (see Master EIR Impact 4.11-6). The proposed project would require fuels typical for construction equipment. The project proposes replacement of the existing lighting system with more efficient LED lighting. The new LED lighting would result in an overall decrease in demand for electrical energy relative to the previous lighting technology used for field lighting. Operational fuel use for maintenance equipment would result in a negligible increase in energy use.

The Master EIR concluded that implementation of state regulations, coordination with energy providers, and implementation of 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 consistent with the type and intensity of development anticipated for the site in the 2035 General Plan. The project would also be consistent with the Sacramento CAP and would not result in the inefficient, wasteful, or unnecessary consumption of energy or conflict with state or local plans for renewable energy or energy efficiency. Therefore, implementation of the proposed project would have ***no additional significant environmental effects*** beyond what has been previously analyzed in the Master EIR.

MITIGATION MEASURES

None required.

FINDINGS

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

[50] City of Sacramento. 2015. *Sacramento 2035 General Plan, Environmental Resources*. Available at: http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/General-Plan/2035-GP/Environmental-Resources.pdf?la=en. Accessed March 2023.

Geology and Soils

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
6. GEOLOGY AND SOILS Would the project:			
A) 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?			X

ENVIRONMENTAL SETTING

Discussion in this chapter is based on conclusions in the *Del Paso Park – Renfree Field Improvements Geotechnical Investigation*, included as **Appendix E**.[51]

Seismicity

The 2035 General Plan Master EIR identifies the city of Sacramento as being subject to potential damage from earthquake-induced ground shaking at a maximum intensity of VII on the Modified Mercalli scale (see Master EIR Table 6.5-6). The closest potentially active faults to the project site include the Foothills Fault System, located approximately 23 miles from Sacramento; the Great Valley fault, located 26 miles from Sacramento; the 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 of 6.9; and the Hunting Creek-Berryessa Fault could generate an earthquake with a magnitude of 6.9. A major earthquake on any of these faults could cause strong ground shaking in the project area.

Topography

Terrain in the city of Sacramento features have very little relief and the potential for slope instability within the city is minor due to the relatively flat topography of the area. The approximately 8.33-acre project site is approximately 69 feet above sea level and is relatively level with no major changes in grade, i.e., about 2 feet across the site.

Regional Geology

The project site lies near the southern end of the Sacramento Valley portion of 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 was formed by the tilting of the Sierran Block, with the western side dropping to form the valley and the eastern side being uplifted to 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

[51] Geocon Consultants. 2023. *Del Paso Park – Renfree Field Improvements Geotechnical Investigation*. Prepared for City of Sacramento, Department of Youth, Parks, and Community Enrichment. March 27. Included as **Appendix E**.

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; these sediments are approximately 15,000 feet deep.

Project Site Soils

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey, soils in the project area consist of two soil types—Liveoak sandy clay loam and San Joaquin Urban Land complex soil.[52] The Liveoak soil consists of very deep, moderately well-drained soils formed in loamy alluvium from mixed sources. This soils type occurs mainly along the eastern and southeastern part of the Sacramento Valley. The San Joaquin series consists of moderately deep to a duripan, well- and moderately well-drained soils that formed in alluvium derived from mixed but dominantly granitic rock sources. This soils type occurs mainly along the eastern side of the Sacramento and San Joaquin Valleys.[53]

STANDARDS OF SIGNIFICANCE

For 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 (Seismic Hazards)

Geologic Hazards

The project site is not located on or in the vicinity of an Alquist-Priolo Fault Zone or on any other known active faults or fault traces.[54] Therefore, the potential for fault rupture on the project site is considered to be low.

The project site is in an area of the city that is topographically flat. Landslides induced by soil failure or seismic movement typically occur on slopes with gradients of 30 percent or higher. The Sacramento region has a history of relatively low seismicity in comparison with more active seismic regions such as the San Francisco Bay Area or Southern California. The two most referred-to earthquakes that resulted in reported building damage in Sacramento are the

[52] U.S. Department of Agriculture (USDA). 2022. Natural Resources Conservation Service (NRCS) Web Soil Survey. Available at: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed December 2022.

[53] Ibid.

[54] Geocon Consultants. 2023. *Del Paso Park – Renfree Field Improvements Geotechnical Investigation*. Prepared for City of Sacramento, Department of Youth, Parks, and Community Enrichment. March 27. Included as **Appendix E**.

Winters and Vacaville events in 1892. There are no reported occurrences of seismic-related ground failure in the Sacramento region due to earthquakes.[55] New site features include fencing, dugouts, and eight sport field lighting towers at 60 feet. Given that the project site would not build housing or construct buildings that could collapse in the event of an earthquake, the proposed project would not expose individuals or properties to adverse effects associated with seismic-induced or soil failure hazards.

Soil liquefaction is a phenomenon primarily associated with the saturated soil layers located close to the ground surface. The soils lose strength during ground shaking generated by seismic events. Due to the loss of strength, the soil acquires "mobility" sufficient to permit both horizontal and vertical movements. Soils that are most susceptible to liquefaction are clean, loose, uniformly graded, saturated, fine-grained sands that lie relatively close to the ground surface. However, loose sands that contain a significant number of fines (minute silt and clay fraction) may also liquefy. According to the NRCS, soils at the project site include 0 to 3 percent slopes.[56] The project site is not located within a State-Designated Seismic Hazard Zone for liquefaction.[57] Therefore, the project would not expose individuals or properties to adverse effects associated with geologic or seismic hazards related to liquefaction or fault rupture.

Expansive soils are those possessing clay particles that react to moisture changes by shrinking (when dry) or swelling (when wet). Soil samples taken from Renfree Field indicate low expansion potential. Given that the project site would not construct buildings subject to movement as a result of expansive soils, impacts related to expansive soils would be considered less than significant.

Consistent with the conclusions of the Master EIR, implementation of the City Code, which requires preparation and implementation of a site-specific Geotechnical Investigation, would ensure that the proposed project would include protections against possible seismic hazards. Therefore, implementation of the proposed project would have ***no additional significant environmental effects*** beyond what has been previously analyzed in the Master EIR.

MITIGATION MEASURES

None required.

FINDINGS

The proposed project would be consistent with the type and intensity of uses anticipated for the site in the 2035 General Plan Master EIR. Therefore, implementation of the proposed project would result in ***no additional significant environmental effects*** related to Geology and Soils.

[55] Geocon Consultants. 2023. *Del Paso Park – Renfree Field Improvements Geotechnical Investigation*. Prepared for City of Sacramento, Department of Youth, Parks, and Community Enrichment. March 27. Included as **Appendix E**.

[56] U.S. Department of Agriculture (USDA). 2022. Natural Resources Conservation Service (NRCS) Web Soil Survey. Available at: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed December 2022.

[57] Geocon Consultants. 2023. *Del Paso Park – Renfree Field Improvements Geotechnical Investigation*. Prepared for City of Sacramento, Department of Youth, Parks, and Community Enrichment. March 27. Included as **Appendix E**.

Greenhouse Gas Emissions

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
7. GREENHOUSE GAS EMISSIONS Would the project:			
A) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X
B) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X

ENVIRONMENTAL SETTING

Discussion in this section relies on the project-specific *Renfree Field Renovations Project Air Quality and Greenhouse Gas Technical Report*,[58] included as **Appendix B** in this IS/MND.

Greenhouse Gases

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. GHGs are responsible for "trapping" solar radiation in the earth's atmosphere, a phenomenon known as the greenhouse effect. Prominent GHGs contributing to the greenhouse effect are CO_2, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. Emissions of GHGs contributing to global climate change are attributable, in large part, to human activities associated with on- and off-road transportation, industrial/manufacturing processes, electricity generation by utilities and consumption by end users, residential and commercial on-site fuel usage, and agriculture and forestry. Emissions of CO_2 are, largely, byproducts of fossil fuel combustion.

The quantity of GHGs in the atmosphere responsible for climate change is not precisely known, but it is enormous. No single project alone would measurably contribute to an incremental change in the global average temperature or to global or local climates or microclimates. From the standpoint of CEQA, GHG impacts relative to global climate change are inherently cumulative.

Several regulations currently exist related to GHG emissions, predominantly AB 32, EO S-3-05, and SB 32. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. EO S-3-05 established the GHG emission reduction target for the state to reduce to the 2000 level by 2010, the 1990 level by 2020 (AB 32), 40 percent below the 1990 level by 2030, and 80 percent below the 1990 level by 2050 (SB 32).

To meet the statewide GHG emission targets, the City adopted the Sacramento CAP on February 14, 2012, to comply with AB 32. The CAP identified how the City and the broader

[58] SWCA Environmental Consultants (SWCA). 2023. *Renfree Field Renovations Project Air Quality and Greenhouse Gas Technical Report*. Prepared for City of Sacramento. May. Included as **Appendix B**.

community could reduce Sacramento's GHG emissions and included reduction targets, strategies, and specific actions. In 2015, the City adopted the 2035 General Plan Update, which incorporated measures and actions from the CAP into Appendix B, General Plan CAP Policies and Programs, which includes citywide policies and programs that are supportive of reducing GHG emissions. The City is currently updating its Climate Action and Adaptation Plan (CAAP) as part of the 2040 General Plan update process. The full Draft CAAP and Draft 2040 General Plan were released on April 28, 2023, for an extended public review period that will run through August 2023. [59]

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, a proposed project is considered to have a significant effect relating to GHG emissions if it fails to satisfy the requirements of the Sacramento CAP, 2035 General Plan Update, and thresholds established by the SMAQMD.

SUMMARY OF ANALYSIS UNDER THE 2035 GENERAL PLAN MASTER EIR AND APPLICABLE GENERAL PLAN POLICIES

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 2035 General Plan identified in the Master EIR that would reduce construction-related GHG emissions include the following: Policy ER 6.1.2; Policy ER 6.1.7, Policy ER 6.1.15. The 2035 General Plan incorporates the GHG reduction strategy of the 2012 CAP, which demonstrates compliance mechanism for achieving the City's adopted GHG reduction target of 15 percent below 2005 emissions by 2020. Policy ER 6.1.8 commits the City to assess and monitor performance of GHG emission reduction efforts beyond 2020, and progress toward meeting long-term GHG emission reduction goals. Policy ER 6.1.9 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 reduction goal. The discussion of GHG emissions and climate change in the 2035 General Plan Master EIR is incorporated by reference in this Initial Study (State CEQA Guidelines Section 15150).

The Master EIR identified numerous policies included in the 2035 General Plan that addressed GHG emissions and climate change (see Master EIR Chapter 4.14, pages 4.14-1 et seq.).

ANSWERS TO CHECKLIST QUESTIONS

Question A (GHG Emissions)

In order to evaluate GHGs, the SMAQMD has established recommended thresholds of significance, including mass emission thresholds for construction-related emissions. Operational GHGs must demonstrate consistency with the Climate Change Scoping Plan by implementing applicable BMPs, or equivalent on-site or off-site mitigation. The SMAQMD recommended thresholds of significance for construction GHGs are in units of metric tons per year and are presented in **Table 8: SMAQMD Thresholds of Significance for Greenhouse Gases**.

[59] City of Sacramento. 2022. *Sacramento Climate Action and Adaptation Plan*. Available at: https://www.cityofsacramento.org/Community-Development/Planning/Major-Projects/General-Plan/About-The-Project/Climate_Change. Accessed May 2023.

Table 8: SMAQMD Thresholds of Significance for Greenhouse Gases

Pollutant	Construction Thresholds
GHG	1,100 metric tons/year

Source: Sacramento Metropolitan Air Quality Management District (SMAQMD). 2020. SMAQMD Thresholds of Significance Table. April. Available at: www.airquality.org/LandUseTransportation/Documents/CH2ThresholdsTable4-2020.pdf. Accessed March 2023.

In order to determine whether the proposed project would result in GHG emissions in excess of the applicable thresholds of significance presented above, the proposed project's construction-related and operational emissions were estimated using CalEEMod as described in the Air Quality section of this IS/MND.

The results of the proposed project's construction GHG 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 B** of this IS/MND.

According to the CalEEMod results, the proposed project is estimated to result in maximum annual construction emissions of GHGs, as shown in **Table 9: Maximum Unmitigated Project Construction Greenhouse Gas Emissions**.

Table 9: Maximum Unmitigated Project Construction Greenhouse Gas Emissions

Pollutant	Project Emissions (Mt/year)	SMAQMD Threshold of Significance (Mt/year)
GHG	93	1,100

Source: CalEEMod, May 2023 (see **Appendix B**).

Note: Mt = metric tons

As shown in **Table 9**, the proposed project's maximum unmitigated construction-related GHG emissions would not exceed the applicable threshold of significance of 1,100 metric tons per year. Emissions from proposed project operations were quantified using CalEEMod as described in the Air Quality section of this IS/MND. Based on the modeling, the proposed project would result in approximately 93 metric tons of CO_2 equivalent per year.[60] Operational GHGs must demonstrate consistency with the Climate Change Scoping Plan by implementing applicable BMPs, or equivalent on-site or off-site mitigation (as included in Mitigation Measure **AIR-2**).

All projects must implement Tier 1 BMPs (BMP 1 and 2):

- **BMP 1:** Projects shall be designed and constructed without natural gas infrastructure.
- **BMP 2:** Projects shall meet the current CALGreen Tier 2 standards, except all electric vehicle capable spaces shall instead be electric vehicle ready. Approximately 9 spaces shall be designated electric vehicle capable.[61]

[60] SWCA Environmental Consultants (SWCA). 2023. *Renfree Field Renovations Project Air Quality and Greenhouse Gas Technical Report*. Prepared for City of Sacramento. May. Included as **Appendix B**.

[61] Sacramento Metropolitan Air Quality Management District (SMAQMD). 2020. *Greenhouse Gas Thresholds for Sacramento County. Appendix B.* June. Available at: https://www.airquality.org/LandUseTransportation/Documents/SMAQMDGHGThresholds2020-03-04v2.pdf. Accessed May 20, 2023.

The project would be below the GHG thresholds of significance during construction and operations and would implement the Tier 1 BMP shown above. The proposed project would result in ***no additional significant environmental effects*** beyond those analyzed in the Master EIR and would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

Question B (Conflict or Obstruct Plans)

SMAQMD has prepared GHG thresholds of significance for Sacramento County,[62] and projects within the city limits would be required to adhere to reduction targets, strategies, and specific actions for reducing GHG emissions set forth by the adopted CAP. The City of Sacramento does not assess potential impacts related to GHG emissions on the basis of total emissions of GHGs alone. Rather, the City of Sacramento has integrated a CAP into the City's General Plan, and 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. As noted above, the CAP is currently going through an update process concurrent with the City's larger 2040 General Plan Update. Most of the policies and programs set forth in the current CAP are citywide efforts in support of reducing overall citywide emissions of GHG. However, various policies related to new development within the City would 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 are discussed below.

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. Although not a land development project, the proposed park renovation would include roadway and sidewalk frontage improvements for pedestrians along Auburn Boulevard and Bridge Road. Therefore, the proposed project would comply with Goal LU 2.5 and Policy LU 2.5.1. In compliance with Policy LU 4.1.2, the proposed project would introduce appropriately scaled community-supportive facilities and services, i.e., an improved park, to enhance neighborhood identity and provide convenient access within walking and biking distance of city residents, which could allow for increased park use for residents near the project site.

Buildout of the City's General Plan 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 designation as well as the policies intended to reduce GHG emissions from buildout of the City's General Plan. Considering the project's consistency with the City's General Plan policies intended to reduce GHG emissions, and that the metric tons of CO_2 equivalent per year during construction and operations would be below the GHG thresholds of significance, the proposed project would not conflict with the City's CAP. Consequently, the proposed project would result in a less-than-significant impact. Considering that the proposed project would not result in a project-specific impact related to compliance with the City's CAP, the proposed project would result in ***no additional significant environmental effects*** beyond those analyzed in the Master EIR.

[62] Sacramento Metropolitan Air Quality Management District (SMAQMD). 2021. *Guide to Air Quality Assessment in Sacramento County, Chapter 6: Greenhouse Gas Emissions*. February. Available at: www.airquality.org/LandUseTransportation/Documents/Ch6GHG2-26-2021.pdf. Accessed March 2023.

MITIGATION MEASURES

None required.

FINDINGS

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

Hazards

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
8. HAZARDS Would the project:			
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 Sacramento Fire Department is the first responder for fire, accident, and hazardous materials emergencies in the project area in partnership with the Sacramento County Environmental Management Division. The fire department maintains two Hazardous Materials (HazMat) Teams to respond to hazardous materials incidents.[63] All members of the HazMat Teams are trained in accordance with National Fire Protection Association (NFPA) standards and are certified by the California Specialized Training Institute as Hazardous Materials Specialists. The teams would be expected to respond to any hazardous materials release at the project site or in the vicinity of the project site.

Renfree Field has functioned as a park since its construction in 1968. Park maintenance activities include the use of machinery and chemical applications to control pests and maintain the landscaping. The storage, handling, and use of gasoline, diesel fuel, oil, and lubricants are common for park maintenance. The storage, handling, and use of herbicides and pesticides are also necessary for field and recreational area maintenance.

California Government Code Section 65962.5 requires various state agencies to compile lists of hazardous waste disposal facilities, unauthorized release from underground storage tanks, contaminated drinking water wells, and solid waste facilities from which there is known migration

[63] City of Sacramento. 2022. Special Operations. Available at: http://www.cityofsacramento.org/fire/operations/special-operations. Accessed December 2022.

of hazardous waste, and to submit such information to the Secretary for Environmental Protection on at least an annual basis. In meeting the provisions in California Government Code Section 65962.5, commonly referred to as the "Cortese List," database resources such as EnviroStor and GeoTracker provide information regarding identified facilities.

The California Department of Toxic Substances (DTSC) EnviroStor database results indicate there are three cleanup sites within a 1-mile radius of the project site:[64]

1. Arcade Fundamental Middle School site, located approximately 0.5 mile southwest, which has an active status for one underground diesel storage tank;
2. Mercy Housing California site, located approximately 0.9 mile southwest, with a certified complete status; and
3. McClellan Air Force Base, located approximately 1 mile northwest, which has a certified complete/operations and maintenance status.

The State Water Resources Control Board (California Water Boards) GeoTracker identified 14 Leaking Underground Storage Tank (LUST) sites within a 1-mile radius of the project site. Of the 14 sites, all but one is deemed completed – case closed. The Arcade Fundamental School site (described above) has an open status and is under verification monitoring as of February 25, 2023.[65]

The former McClellan Air Force Base site, located approximately 1 mile to the northwest, is included on the EPA's National Priority List (or Superfund). The site is currently undergoing extensive remediation to the soils and groundwater to address historic contamination from several sources throughout the former military installation. Hazardous material facilities on the installation included disposal pits, wash racks, fuel and oil storage, electronics repair and testing facilities, aircraft painting facilities, wastewater treatment plants, machine shops, and open storage areas.

Regulatory Setting

Federal regulations and regulations adopted by the SMAQMD apply to the identification and treatment of hazardous materials during demolition and construction activities. Failure to comply with these regulations respecting asbestos may result in a Notice of Violation being issued by the SMAQMD and civil penalties under state and/or federal law, in addition to possible action by the EPA under federal law. Federal law covers a number of different activities involving asbestos, including demolition and renovation of structures (40 Code of Federal Regulations [CFR] Section 61.145).

SMAQMD Rule 902 and Commercial Structures

The work practices and administrative requirements of Rule 902 apply to all commercial renovations and demolitions where the amount of Regulated Asbestos-Containing Material (RACM) is greater than:

- 260 lineal feet of RACM on pipes, or

[64] California Department of Toxic Substances (DTSC). 2023. Envirostor. Available at: https://www.envirostor.dtsc.ca.gov/public/. Accessed February 25, 2023.

[65] State Water Resources Control Board (California Water Boards). 2023. GeoTracker. Available at: http://geotracker.waterboards.ca.gov/. Accessed February 25, 2023.

- 160 square feet of RACM on other facility components, or
- 35 cubic feet of RACM that could not be measured otherwise.

The administrative requirements of Rule 902 apply to any demolition of commercial structures, regardless of the amount of RACM. To determine the amount of RACM in a structure, Rule 902 requires that a survey be conducted prior to demolition or renovation unless:

- the structure is otherwise exempt from the rule, or
- any material that has a propensity to contain asbestos (so-called "suspect material") is treated as if it is RACM.

Surveys must be completed by a licensed asbestos consultant and require laboratory analysis. Asbestos consultants are listed in the phone book under "Asbestos Consultants." Large industrial facilities may use non-licensed employees if those employees are trained by the EPA. Questions regarding the use of non-licensed employees should be directed to the SMAQMD.

STANDARDS OF SIGNIFICANCE

For 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;
- 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 Master EIR Chapter 4.6). Implementation of the 2035 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 2035 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 Policy PHS 3.1.1 (investigation of sites for contamination) and Policy PHS 3.1.2 (preparation of hazardous materials actions plans when appropriate), were effective in reducing the identified impacts.

ANSWERS TO CHECKLIST QUESTIONS

Question A (Expose People to Contaminated Soils)

As described above, the project site has been historically used for recreational purposes and does not have permanent structures that could contain hazardous materials.

The project site is not included on federal and state databases containing known and suspected sites of environmental contamination. Grading and construction activities associated with the

proposed project would disturb an approximately 8.33-acre area. The greatest depth of excavation would extend to a depth of no more than 10 feet at discrete locations associated with shade structures, backstop fencing, dugouts, and lighting tower locations. Although the project would include disturbance of the entire project site, no known hazardous material sites exist within the project footprint and the proposed project would not have the potential to result in impacts related to the disturbance or upset of hazardous materials.

Therefore, the construction activities associated with the proposed project would not result in the exposure of construction workers or other sensitive receptors to contaminated soils, and ***no additional significant environmental impacts*** beyond what was previously analyzed in the Master EIR would occur.

Question B (Expose People to Hazardous Substances)

The Master EIR determined that buildout of the 2035 General Plan could necessitate demolition of existing structures, which could potentially result in the exposure of construction workers or other sensitive receptors to hazardous substances such as asbestos or lead-based paints. The project site is currently developed as a baseball field and contains surface level development, including a surface parking lot, with two dugouts, fencing and lighting. Demolition of the existing parking lot and park facilities would be necessary during implementation of the proposed project, and necessary precautions such as asbestos and lead-based paint survey would be implemented prior to project construction workers per SMAQMD Rule 902. Because the proposed project would comply with Rule 902, the potential to expose construction workers and nearby sensitive receptors to asbestos or lead-containing materials is low, and the proposed project would result in ***no additional significant environmental effects*** beyond what was previously analyzed in the Master EIR.

Question C (Dewatering)

The proposed project would include grading and construction activities in an approximately 8.33-acre area. Grading and excavation depths would range from 2 to 3 feet for fencing to a maximum of 9 feet for the baseball backstop. During fieldwork on February 6, 2023, for the project's Geotechnical Investigation,[66] groundwater was not encountered throughout exploratory borings conducted to a maximum depth of approximately 16.5 feet (see **Appendix E**). Therefore, groundwater is not anticipated to be encountered at the estimated depths for project construction. Thus, the proposed project would not be expected to require any on-site dewatering activities and would have a less-than-significant impact related to exposing construction workers and residents to contaminated groundwater. Implementation of the proposed project would result in ***no additional significant environmental effects*** beyond what has been previously analyzed in the Master EIR.

MITIGATION MEASURES

None required.

FINDINGS

The proposed renovation of Renfree Field would not have the potential to result in impacts related to Hazards. The proposed project would be consistent with the type and intensity of uses

[66] Geocon Consultants. 2023. *Del Paso Park – Renfree Field Improvements Geotechnical Investigation*. Prepared for City of Sacramento, Department of Youth, Parks, and Community Enrichment. March 27. Included as **Appendix E**.

anticipated for the site under the City's 2035 General Plan. Thus, implementation of the proposed project would result in ***no additional significant environmental effects***.

Hydrology and Water Quality

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
9. HYDROLOGY AND WATER QUALITY 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 proposed project lies in a region dotted with low natural hills in the Sacramento Valley, west of the Sierra Nevada foothills. The Sacramento Valley has broad alluvial plains dominated by annual grasslands and wetland habitats. The Sacramento River and its tributaries drain this rich agricultural valley from its northern headwaters approximately 380 miles south to the Sacramento–San Joaquin Delta. The project area is approximately 7.17 kilometers (4.45 miles) north of the American River. According to the NRCS Web Soil Survey, soils in the project area consist of two soil types—Liveoak sandy clay loam and San Joaquin Urban Land complex soil.[67] The parcel has an elevation of approximately 68 feet above sea level.

The project site is in a suburban area of Sacramento and borders the riparian area of Owl Creek, which is a tributary to Arcade Creek, to the west. The site is currently developed as a baseball field with surface level development including fencing, lighting, and parking lots. Stormwater runoff is directed to existing City stormwater infrastructure located below Auburn Boulevard.

Water Quality

The Sacramento and American Rivers in the city of Sacramento have been identified by the Central Valley RWQCB as surface waterbodies that have beneficial uses that are impacted by poor water quality. The beneficial uses identified on both rivers include municipal, agricultural, and recreational water supplies; freshwater habitat; spawning grounds; wildlife habitat; navigation on the Sacramento River; and industrial uses on the American River. The Sacramento River is listed as impaired under the Section 303(d) list for mercury, diazinon, chlordane, DDT, dieldrin and polychlorinated biphenyls (PCBs); the American River is listed for mercury and PCBs; and Arcade Creek exceeds water quality standards for chlorpyrifos,

[67] U.S. Department of Agriculture (USDA). 2022. Natural Resources Conservation Service (NRCS) Web Soil Survey. Available at: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. Accessed December 2022.

diazinon, copper, malathion, pyrethroids and sediment toxicity.[68] Arcade Creek receives stormwater from surrounding developed areas and garden and lawn irrigation runoff. Water from these sources can contain urban contaminants, such as fuels, herbicides and pesticides.

Stormwater Quality/Urban Runoff Management

The City has a Stormwater Quality Improvement Program (SQIP), established in 1990, that includes pollution, erosion, and sedimentation reduction activities for construction sites, industrial sites, illegal discharges and illicit connections, new development, and municipal operations. This program is based on the State National Pollutant Discharge Elimination System (NPDES) Permit for Storm Water Discharges Associated with Construction Activity (Construction General Permit) and NPDES municipal stormwater discharge permit CAS082597, City Code Chapter 13.16 (Stormwater Management and Discharge Control), and City Code Chapter 15.88 (Grading, Erosion and Sediment Control).[69] The City is also a member of the Sacramento Stormwater Quality Partnership (SSQP), a multi-jurisdictional partnership to protect local waterways from the impacts of urban runoff. The SSQP is comprised of Sacramento County and the incorporated cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova.[70]

Before beginning construction activities where the disturbed area is 1 acre or more in size, projects are required to obtain coverage under the NPDES Construction General Permit. In addition, City Code Chapter 15.88.250, Erosion and Sediment Control Plans (ESC Plans), requires all projects to prepare an ESC Plan to control surface runoff and erosion, to retain sediment on a particular site and prevent pollution of site runoff during the period beginning when any preconstruction- or construction-related grading or soil storage first occurs, until all final improvements and permanent structures are complete. The ESC Plan shall be prepared and submitted concurrently with the final grading plan.

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* prepared by SSQP[71] include BMPs to be implemented to mitigate impacts from new development and redevelopment projects, as well as requirements for low LID standards.

City Code Section 13.08.145 (Mitigation of drainage impacts; design and procedures manual for water, sanitary sewer, storm drainage, and water quality facilities)[72] 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

[68] City of Sacramento. 2015. *Sacramento 2035 General Plan Draft Background Report*. Table 6-4. Available at: https://www.cityofsacramento.org/Community-Development/Planning/Major-Projects/General-Plan/About-The-Project/Climate_Change. Accessed May 2023.

[69] City of Sacramento. 2020. Stormwater Quality Improvement Program, Program Information. Available at: http://sacstormwater.org/AboutSQIP/ProgramInformation/ProgramInformation.htm. Accessed March 2023.

[70] Sacramento Stormwater Quality Partnership. 2023. About Us. Available at: https://www.beriverfriendly.net/about-us/. Accessed March 2023.

[71] Sacramento Stormwater Quality Partnership. 2018. *Stormwater Quality Design Manual for the Sacramento Region*. Available at: https://www.cityofsacramento.org/-/media/Corporate/Files/DOU/Specs-Drawings/SWQ_Design_Manual_FINAL2018.pdf?la=en. Accessed March 2023.

[72] Sacramento City Code, Section 13.08.145 Mitigation of Drainage Impacts. Available at: https://library.qcode.us/lib/sacramento_ca/pub/city_code/item/title_13-chapter_13_08-article_iii. Accessed March 2023.

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.

Flood Risk and Damage

The Federal Emergency Management Agency (FEMA) publishes Flood Maps that delineate flood hazard zones for communities. The project site is designated by Flood Insurance Rate Map (FIRM) *Community Panel Number 06067C0069H* as being located within areas designated as follows: unmapped flood zone towards the south, then Zone X, and AE closest to Arcade Creek.[73] Zone X is an area of minimal flood hazard, outside of the special flood hazard area, and higher than the elevation of the 0.2 percent annual chance flood. Zone AE is located within a special flood hazard zone, and Arcade Creek is listed as a Regulatory Floodway.

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 2035 General Plan Master EIR:

- 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 Specific Plan; 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 and 4.7-2) and exposure of people to flood risks (Impact 4.7-3). The Master EIR identified policies in the 2035 General Plan, including comprehensive flood management (Policy EC 2.1.23) and construction of adequate drainage facilities and disturbance minimizations with new development (Policies ER 1.1.1–ER 1.1.10), and concluded these policies would reduce all impacts to a less-than-significant level.

ANSWERS TO CHECKLIST QUESTIONS

Question A (Degradation of Water Quality)

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

[73] Federal Emergency Management Agency (FEMA). 2012. National Flood Hazard Layer Viewer. Available at: https://www.fema.gov/flood-maps. Accessed March 2023.

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 stormwater runoff. Disturbance of site soils would increase the potential for erosion from stormwater to occur. The California Water Boards adopted a statewide general NPDES permit for stormwater discharges associated with construction activity. Dischargers whose projects disturb 1 or more acres of soil are required to obtain coverage under Construction General Permit Order 2010-0014-DWQ. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation. The proposed project would include disturbance of an approximately 8.33-acre area and would be subject to these regulations.

The City's SQIP contains a Construction Element that guides implementation of the NPDES Construction General Permit, which requires the development and implementation of a SWPPP, which must contain a site map(s) that shows the construction site perimeter, existing and proposed buildings, lots, roadways, stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project. The SWPPP must list BMPs the developer will use to protect stormwater runoff and the placement of those BMPs. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP. Compliance with City requirements to protect stormwater 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 the City Code, including Chapter 15.88 (Grading, Erosion and Sediment Control).

Project activities would avoid the riparian areas of Arcade Creek and Owl Creek, as discussed in the Biological Resources section of this IS/MND.

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

Operation

Redevelopment of Renfree Field and the western parking lot to accommodate additional ballfields and sports courts, and the construction of 75 linear feet of new 5-foot-wide sidewalk along Auburn Boulevard on the southern perimeter of site, would not increase the amount of impervious surfaces on the project site compared to existing conditions. There would be no fuels or other contaminants used or stored within the project site, with the possible exception of landscape maintenance equipment. Operation of the proposed project would result in a less-than-significant impact related to water quality.

Conclusion

The design of the proposed project and conformance with state and City 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 operation of the proposed project would not occur. The design of the proposed project provides for containment of all runoff water associated with the site through the use of on-site stormwater detention basin(s); therefore, discharge of runoff to surface waters or groundwater would not

result from the proposed project. Furthermore, the proposed project would comply with SWPPP BMPs. The proposed project's impacts related to substantial degradation of water quality or violation of any water quality objectives set by the California Water Boards, due to increases in sediments and other contaminants generated by construction and/or operation of the proposed project, would be less than significant. Considering that the proposed project would not result in a project-specific impact related to the degradation of water quality during construction and operation, the proposed project would result in ***no additional significant environmental effects*** beyond the effects analyzed in the Master EIR.

Question B (100-Year Flood)

A floodplain is an area that is inundated during a flood event and is often physically discernable as a broad, flat area created by historical floods. The majority of the project site is not located within the 100-year flood hazard area but in Zone X, an area of minimal flood hazard (100- to 500-year flood zone) and higher than the elevation of the 0.2 percent annual chance flood. A portion of the proposed basketball and pickleball courts would be located in Zone AE, a special flood hazard area. However, the project would represent a reduction in impervious surfaces, allowing for potentially fewer flooding impacts over existing conditions. The proposed project would increase the amount of time people spend in the project area while recreating. However, these facilities are unlikely to be used during storms that could result in localized flood events. For these reasons, the proposed project would not substantially increase the risk of exposure to flood hazards, and the proposed project would result in ***no additional significant environmental effects*** beyond the effects analyzed in the Master EIR.

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.

Noise

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
9. NOISE 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_{dn} or greater caused by noise level increases due to the project?			X

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
C) Result in construction noise levels that exceed the standards in the City of Sacramento general plan or 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

Noise is defined as unwanted sound, and thus is a subjective reaction to characteristics of a physical phenomenon.[74] A frequency weighting measure that simulates human perception is commonly used to describe noise environments and to assess impacts on noise-sensitive areas. It has been found that A-weighting of sound levels best reflects the human ear's reduced sensitivity to low frequencies and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria. With respect to how humans perceive and react to changes in noise levels, a 1 dB increase is imperceptible, a 3 dB increase is barely perceptible, a 6 dB increase is clearly noticeable, and a 10 dB increase is subjectively perceived as approximately twice as loud.[75] Therefore, a 70-dB sound level will sound about twice as loud as a 60-dB sound level. People generally cannot detect differences of 1 to 2 dB in a complex acoustical environment. A 5-dBA change is also required before any noticeable change in community response is expected.[76]

Construction noise within the City is regulated by the Environmental Constraints chapter of the 2035 General Plan and City Code Section 8.68 (Noise Control), which sets limits for exterior noise levels on designated residential property and interior noise levels pertaining to multiple dwelling units. The ordinance states that exterior noise shall not exceed 55 dB during any cumulative 30-minute period in any hour during the day (7:00 a.m.–10:00 p.m.) and 50 dB during any cumulative 30-minute period in any hour during the night (10:00 p.m.–7:00 a.m.).[77]

[74] City of Sacramento. 2015. *Sacramento 2035 General Plan Background Report, Chapter 7: Public Health and Safety*. Adopted March 3. Available at: http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/General-Plan/2035-GP/Chapter-7---Public-Health-and-Safety.pdf?la=en. Accessed March 2023.

[75] California Department of Transportation (Caltrans). 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. Pages 2-43 through 2-46 and Table 2-10. Caltrans Division of Environmental Analysis. September. Available at: *https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf*. Accessed May 2023.

[76] Charles M. Salter Associates, Inc. 1998. *Acoustics – Architecture, Engineering, the Environment*. Page 63.

[77] Sacramento City Code, Article III. General Noise Regulations. Available at: https://library.qcode.us/lib/sacramento_ca/pub/city_code/item/title_8-chapter_8_68?view=all#title_8-chapter_8_68-article_iii. Accessed March 2023.

The ordinance sets somewhat higher noise limits for time intervals of shorter duration; however, noise in residential areas must never exceed 75 dB during the day and 70 dB at night. In addition, City Code Section 8.68.080 (Exemptions) states that (D) "noise sources due to the erection (including excavation), demolition, alteration, or repair of any building or structure between the hours of 7 AM and 6 PM, on Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday, and between 9 AM and 6 PM on Sunday; provided, however, that the operation of an internal combustion engine shall not be exempt pursuant to this subsection if such engine is not equipped with suitable exhaust and intake silencers which are in good working order," and (H) "Tree and park maintenance activities conducted by the city department of parks and community services; provided, however, that use of portable gasoline-powered blowers within two hundred (200) feet of residential property shall comply with the requirements of Section 8.68.150 of this chapter."[78]

Typical outdoor sources of perceptible ground vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground vibration is rarely perceptible. The range of intensities is from approximately 50 vibration decibels (VdB), which is the typical background vibration velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Construction activities can generate ground vibrations, which can pose a risk to nearby structures. Constant or transient vibrations can weaken structures, crack facades, and disturb occupants.

Adjacent properties to Renfree Field include a residential neighborhood to the north along Park Road, commercial properties to the east of the Auburn Boulevard on- and off-ramps, a mix of residential and commercial properties to the south along the south side of Auburn Boulevard, as well as other areas of the larger Del Paso Regional Park. Land uses within the project vicinity are a mix of recreational, commercial, and residential uses. The closest sensitive receptors to the project site include users of the playground, which is located approximately 30 feet south of where construction is proposed. The playground would remain open during project construction, although it is unlikely many users would come to the playground during construction. Additional receptors include the single-family residences approximately 230 feet southeast of the project site on Park Road, or the Sunset Gardens apartment complex, which is approximately 300 feet southwest of the project site across Auburn Boulevard. The project is located approximately 1.3 miles southeast of the Sacramento McClellan Airport main runway. The project is not located within the mapped noise contours of the Sacramento McClellan Airport.[79]

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;

[78] Sacramento City Code, Section 8.68.080 Exemptions. Available at: https://library.qcode.us/lib/sacramento_ca/pub/city_code/item/title_8-chapter_8_68?view=all. Accessed April 2022.

[79] City of Sacramento. 2015. *Sacramento 2035 General Plan Background Report, Chapter 7: Public Health and Safety*. Figure 7.4: Airport Noise Contours. Adopted March 3. Available at: http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/General-Plan/2035-GP/Chapter-7---Public-Health-and-Safety.pdf?la=en. Accessed March 2023.

- 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 (see Master EIR Chapter 4.8). New noise sources would include vehicular traffic, aircraft, railways, light rail and stationary sources. The 2035 General Plan policies establish exterior (Policies EC 3.1.1 and EC 3.1.2) and interior (EC 3.1.3) noise standards for noise-sensitive uses. A variety of policies provide standards for the types of development envisioned in the 2035 General Plan. Per Policy EC 3.1.1. The City shall require noise mitigation for all development where the projected exterior noise levels exceed those shown in Table EC 1 [Table 4.8-2], shown below in **Table 10. Exterior Noise Compatibility Standards for Various Land Uses** to the extent feasible.

For example, Policy EC 3.1.8 requires new mixed-use, commercial, and industrial development to mitigate the effects of noise from operations on adjoining sensitive land use. Policy 3.1.9 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 2035 General Plan policies, noise impacts for exterior noise levels (Impact 4.8-1) and interior noise levels (Impact 4.8-2), and construction vibration impacts (Impact 4.8-4) were found to be significant and unavoidable. Construction noise impacts would be reduced to less-than-significant levels with implementation of the City's noise ordinance and Policy EC 3.1.10, which requires development projects to assess and minimize the potential construction noise impacts on nearby sensitive uses (Impact 4.8-3). Exposure to vibration from transportation facilities would be less than significant with implementation of Policies EC 3.1.6 and 3.1.7, which require that the effects of vibration of these facilities be evaluated and mitigated as needed.

One noise policy specifically addresses parks:

- **Policy EC 3.1.9: Compatibility with Park and Recreation Uses.** The City shall limit the hours of operation for parks and active recreation areas in residential areas to minimize disturbance to residences.

Per table 10, the highest level of "normally acceptable" noise exposure is 70dBA in the Renfree Field area.

Table 10. Exterior Noise Compatibility Standards for Various Land Uses

Land Use Type	Highest Level of "Normally Acceptable"[a] Noise Exposure (L_{dn} or CNEL)[b, c]
Residential—Low Density Single Family, Duplex, Mobile Homes	60 dBA
Residential—Multi-family	65 dBA
Urban Residential Infill and Mixed-Use Projects	70 dBA
Transient Lodging—Motels, Hotels	65 dBA
Schools, Libraries, Churches, Hospitals, Nursing Homes	70 dBA
Playgrounds, Neighborhood Parks	70 dBA
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75 dBA
Office Buildings—Business, Commercial and Professional	70 dBA
Industrial, Manufacturing, Utilities, Agriculture	75 dBA

Notes:

a. "Normally Acceptable" means that the "specified land use is satisfactory, based upon the assumption that any building involved is of normal conventional construction, without any special noise insulation requirements."

b. Ldn or Day Night Average Level is an average 24-hour noise measurement that factors in day and night noise levels.

c. CNEL or Community Noise Equivalent Level measurements are a weighted average of sound levels gathered throughout a 24-hour period.

Source: Ascent Environmental. 2014. *City of Sacramento 2035 General Plan Update Draft Master Environmental Impact Report*. August. Available at: http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/Environmental-Impact-Reports/2035-GP-Update/Public-Draft-MEIR081114.pdf?la=en. Accessed April 2023.

ANSWERS TO CHECKLIST QUESTIONS

Question A (Exterior Noise Levels), B (Residential Interior Noise), and C (Construction Noise)

As stated above, the proposed project would include renovations and improvements to an existing recreational facility. Thus, Question B is not applicable to the proposed project.

Exterior Noise Levels

While sports activities including games, practices, and less formal field activities are not currently programmed, the project site has been used for these activities since 1968. Typical noise-generating activities associated with the proposed project would therefore continue to include raised voices, and occasional yelling and cheering for users and fans of baseball, soccer and pickleball. No amplified sound or speakers are proposed as part of the project.

Per the 2035 General Plan, the primary noise source in the city is vehicular traffic.[80] Other major contributors to noise also include airplane traffic and railroads. Based on noise data in Appendix C of the 2035 General Plan, the calculated noise level at a 50-foot distance from the Auburn Boulevard right-of-way between Watt Avenue and SR 244, which forms the southern

[80] City of Sacramento. 2015. *Sacramento 2035 General Plan Background Report, Chapter 7: Public Health and Safety*. Adopted March 3. Available at: https://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/General-Plan/2035-GP/Chapter-7---Public-Health-and-Safety.pdf?la=en. Accessed May 2023.

boundary of Renfree Field, is 68.9 dBA day-night average sound level (L_{dn}).[81] Although on-site parking would be reduced by approximately 50 spaces (from 126 surface parking spaces to 77), it is reasonable to assume that additional visitation would occur due to the park renovations and additional recreational opportunities (pickleball, basketball, and soccer). Project-related traffic increases would not be expected to double current traffic volumes on the local roadway network; therefore, any additional traffic associated with Renfree Field and its additional park features would not noticeably alter traffic noise levels on Auburn Boulevard, Bridge Road, or Park Road such that it would be noticeable.

The proposed pickleball and basketball courts would be located in the northern portion of the western parking lot. From the proposed court locations, the closest sensitive receptors are approximately 230 feet northwest, on the north side of Park Boulevard. The distance from residential uses and presence of intervening vegetation in the Arcade Creek riparian corridor, which would act as a buffer, would reduce noise effects from use of the pickleball and basketball courts and from yelling and cheering associated with the courts and fields. Additionally, the residences along Park Boulevard are bounded on the north-northwest by I-80, a major freeway. As noted above, the ambient noise environment is dominated by traffic with calculated noise levels at the southern boundary along Auburn Boulevard identified as 68.5 dBA L_{dn}. The immediate noise environment on Park Road, which is closer to I-80, would likely be the same or greater.

Because the measurement of sound pressure levels in decibels is based on a logarithmic scale, decibels cannot be added or subtracted in the usual arithmetical way. Adding a new noise source to an existing noise source, with both producing noise at the same level, will not double the noise level. For instance, if two identical noise sources each produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.[82] In short, noise levels are not additive; thus, noise levels generated by use of the proposed pickleball and basketball courts and the baseball and soccer fields would not contribute noticeably to an ambient noise level defined by traffic noise from the existing freeway and roadway network that surrounds the project site and its immediate vicinity. As a result, noise generated by use of the improved Renfree Field, i.e., expanded range of sports activities including games, practices, and other events, would not substantially alter the type or intensity of noise generated in the project area. Therefore, 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. Any noise complaints about pickleball, basketball, baseball, or soccer activities would be subject to City Code Section 8.68.280 (Violations and Penalties). Impacts related to noise from project operation would be considered less-than-significant.

Construction Noise

During project construction, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction and some of the sensitive receptors in residential developments surrounding the project site may be temporarily affected. The degree of construction noise impacts may vary for different areas of the project vicinity and vary

[81] City of Sacramento. 2015. *Sacramento 2035 General Plan, Appendix C: Noise Contours.* Adopted March 3. Available at: https://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/General-Plan/2035-GP/Appendix-C---Noise-Contours.pdf?la=en. Accessed May 2023.

[82] California Department of Transportation (Caltrans). 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. Page 2-14. Caltrans Division of Environmental Analysis. September. Available at: *https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf*. Accessed May 2023. Table 2-3 demonstrates the result of adding noise from multiple sources.

depending on the construction activities. Construction equipment is expected to generate noise levels ranging from 80 to 90 dB at a distance of 50 feet and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance.[83,84] Therefore, the construction noise would be consistent with the exterior and interior noise levels limits stated in City Code Section 8.68 (Noise Control), as outlined above. The ordinance does not address noise levels in City parks.

Construction activities would take place between the hours of 7:00 a.m. and 6:00 p.m., Monday to Saturday, and between the hours of 9:00 a.m. and 6:00 p.m. on Sunday, and therefore would be exempt from further regulation. Tree and park maintenance activities conducted by the City Parks Department are also exempt from the Noise Ordinance standards. If work is required outside of these established construction hours, the project contractor would be required to receive prior authorization from the City. Project construction is expected to start in spring 2024 and occur over a period of approximately 8 to 10 months. During construction, the contractor shall place temporary signage to inform the community of established construction hours and provide a point of contact to report excessive noise breaches. Therefore, project construction would not conflict with City Code Section 8.68.

In addition, the proposed project would be consistent with the 2035 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. The improvements proposed would be consistent with the existing park and recreational uses, construction and park maintenance are exempt from the Noise Ordinance Standard and, therefore, would not result in construction noise levels in excess of the City's standards, and a less-than-significant impact would occur.

The proposed project would not result in exterior noise levels in the project area above the upper value of the normally acceptable category for the site's land use, and therefore would not result in interior or exterior noise levels in excess of the City's standards, and a less-than-significant impact would occur. Construction and operation of the proposed project would not result in project-specific impacts related to noise and would result in ***no additional significant environmental effects*** beyond the effects analyzed in the Master EIR.

Question D (Construction Vibration), E (Operation Vibration), and F (Historic Buildings)

There are no historic buildings on-site. Equipment associated with high vibration levels such as pile drivers would not be used for project construction. Construction activities would include use bulldozers and other heavy tracked construction equipment (see Section II, Project Description). Conservatively a vibratory roller may generate a groundborne vibration of 0.21 peak particle velocity (PPV) at 25 feet from the source.[85] The closest sensitive receptor is located approximately 230 feet northwest from the project site. There are no operational features of Renfree Field that would require the use of vibratory equipment. Considering there would be no use of high vibration equipment for construction or operation, the project would not result in a project-specific impacts related to vibration and would result in ***no additional significant environmental effects*** beyond the effects analyzed in the Master EIR.

[83] Ibid.

[84] Federal Highway Administration (FHWA). 2006. *FHWA Highway Construction Noise Handbook*. Table 9.1, p. 91. August. Available at: https://rosap.ntl.bts.gov/view/dot/8837/dot_8837_DS1.pdf?%20. Accessed May 2023

[85] Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment Manual*. Page 184. Available at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed May 2023.

MITIGATION MEASURES

None required.

FINDINGS

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

Public Services

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
10. PUBLIC SERVICES			
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

ENVIRONMENTAL SETTING

Fire Protection

Fire protection services are provided by the Sacramento Metropolitan Fire District (Metro Fire), which serves the Del Paso Regional Park area and unincorporated Sacramento County. Metro Fire is a full-service fire department, with the responsibility for responding to and mitigating incidents involving fires, medical emergencies, hazardous materials, and technical and water rescue within its service area. Metro Fire also provides a full range of support services, including fire prevention, public education, fire investigation, and domestic preparedness planning and response.

Metro Fire has 42 active fire stations located throughout its service area. Metro Fire Station 103 is the closest station to the project site, located approximately 2,216 feet southwest at 3824 Watt Avenue.[86] All Sacramento County fire agencies (Sacramento Fire Department, Metro Fire, Sacramento International Airport Fire, Cosumnes Fire District, and Folsom Fire Department) share an automatic aid agreement, known as boundary dropping, which means that the closest fire unit responds regardless of jurisdiction.[87]

Police Protection

Police protection services are provided by the Sacramento Police Department (SPD) for areas within the city and the County Sheriff's Department for areas within unincorporated Sacramento County. In addition to SPD and the Sheriff's Department, the California Highway Patrol, UC Davis Medical Center Police Department, and Regional Transit Police Department provide

[86] Metro Fire. 2023. Station Locations. Available at: https://metrofire.ca.gov/station-locations. Accessed March 7, 2023.

[87] City of Sacramento. 2015. *Sacramento 2035 General Plan Background Report, Chapter 5: Public Services*. Adopted March 3. Available at: http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/General-Plan/2035-GP/Chapter-5-Public-Services.pdf?la=en. Accessed March 7, 2023.

police protection within the greater Sacramento area. The Sacramento Fire Department Headquarters operates from the Public Safety Center, located at 5770 Freeport Boulevard. This facility is also the headquarters for the SPD.

The SPD operates from three stations in the city of Sacramento, including the Public Safety Center described above.[88] The closest station is the North Command Substation (William J. Kinney Police Facility), which is located approximately 2.8 miles west of the project site at 3550 Marysville Boulevard. The North Area Substation provides police services to the northern portion of the city, from the American River on the south to the city limits on the west, north, and east. The Sheriff Department, located at 4500 Orange Grove Avenue, is approximately 1 mile east of the project site.

School Facilities

The Sacramento City Unified School District is the primary provider of school services within the City, supported by the Twin Rivers Unified School District (TRUSD), Robla School District (RSD), Natomas Unified School District, San Juan Unified School District, and the Elk Grove Unified School District. The nearest school is Arcade Fundamental Middle School, located 2,100 feet southwest of the project site.

Other Governmental Services

The Sacramento Department of Convention and Cultural Services provides and publicizes cultural, artistic, and leisure opportunities within the city. The Sacramento Public Library provides a variety of library services to the Cities of Sacramento, Citrus Heights, Elk Grove, Galt, Isleton, and Rancho Cordova and the County of Sacramento.

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, an impact would be considered significant if the proposed project resulted 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.

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 (see Master EIR Chapter 4.10).

The 2035 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 (Goals PHS 1.1 and PHS 2.1). The Master EIR concluded that effects of development that could occur under the 2035 General Plan would be less than significant (Impacts 4.10-1 and 4.10-2) with implementation of public health and safety policies regarding the provision of these services.

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, which encourages joint-use development of facilities) reduced impacts on schools to a less-

[88] City of Sacramento. 2017. *Sacramento Police Department: 2015 Annual Report.* Available at: http://www.cityofsacramento.org/Police/About-SPD/Annual-Report. Accessed April 2023

than-significant level (Impacts 4.19-3 and 4.10-4). Impacts on library facilities were also considered less than significant (Impact 4.10-5). Impacts on emergency response facilities were also found to be less than significant with implementation of General Plan policies (Impact 4.10-6).

ANSWERS TO CHECKLIST QUESTIONS

Question A (New or Altered Services)

The Master EIR discusses the potential for impacts to public services due to increased development and population in the city of Sacramento. The Master EIR analyzes the 2035 General Plan policies related to police protection services, fire protection services, schools, and other governmental services 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 type and intensity of development anticipated for the site in the 2035 General Plan. Therefore, based on the analysis in the Master EIR, the proposed project would not impact public services, nor would the proposed project require the development of new public service facilities beyond what was anticipated in the 2035 General Plan.

The proposed project would result in a park renovation; thus, it would not implement new uses or square footage of development on-site and would not increase the number of city residents, require the need for new facilities, or increase the demand for police and fire protection services. The proposed project would not directly generate new students in the area; therefore, existing educational facilities in the TRUSD and RSD would not need to be expanded, nor would new facilities need to be developed. The proposed project would not generate residents that would increase the use of the Sacramento Public Library system. Therefore, existing library facilities would not need to be expanded nor would new facilities need to be built to accommodate implementation of the proposed project.

Therefore, increased demand on public services resulting from implementation of the proposed project would be consistent with what was planned for in the 2035 General Plan and analyzed in the Master EIR. The proposed project would result in ***no additional significant environmental effects*** beyond the effects analyzed in the Master EIR.

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.

Recreation

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
11. RECREATION Would the project:			
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 YPCE maintains 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 2 to 6 acres in size and are intended to be used primarily by residents within a 0.5-mile radius. Community Parks are generally 10 to 60 acres and serve an area of approximately 2 to 3 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.

The City currently contains 235 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 developed park sites comprise 218 total parks.[89] With the inclusion of the City's golf courses (633 acres) and Camp Sacramento, which is located in El Dorado County (19 acres), the City's parkland total is approximately 4,360 acres. The North Sacramento Community Plan Area contains 22 parks spread over 472 acres.

Residential and non-residential projects that are built in the city of Sacramento are required to pay a park development impact fee per City Code Chapter 18.56. The fees collected pursuant to Chapter 18.56 are primarily used to finance the construction of neighborhood, community, and citywide parks facilities.[90]

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, 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

[89] City of Sacramento. 2023. *Parks Plan 2040*. Available at: https://www.cityofsacramento.org/ParksandRec/Parks/Park-Planning-Development/ParksPlan. Accessed June 2022.

[90] City of Sacramento. 2022. Citywide Development Impact Fee (DIF) Program. Available at: http://www.cityofsacramento.org/community-development/resources/citywide-development-impact-fee-program. Accessed June 2022.

- 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 2035 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

Question A (Park Deterioration), B (Additional Facilities)

The Master EIR analyzed potential impacts to parks and recreational facilities with implementation of future projects, including the proposed project. Policies were included in the 2035 General Plan to ensure that future development would not impact existing parks and recreational facilities and to ensure that adequate park and recreational facilities are provided to the residents of Sacramento. The proposed improvement to Renfree Field is consistent with the land use designation of the 2035 General Plan, and, as a result, would meet a part of the increased demand on parks and recreational facilities generally anticipated in the Master EIR. The Master EIR concluded that, with implementation of the policies in the 2035 General Plan, future development would not have a significant impact on park and recreational facilities. Therefore, the proposed project would not accelerate substantial deterioration of existing parks and recreational facilities, nor would the proposed project require the construction or expansion of recreational facilities beyond what was anticipated in the 2035 General Plan.

The project proposes renovation of an existing recreational facility, Harry Renfree Field. The proposed project is expected to increase the use of its facilities, as well as the surrounding Del Paso Regional Park. The proposed project would replace Renfree Field with two baseball fields and develop a 210-foot by 330-foot soccer field, one full-size basketball court, four pickleball courts, and replacement of the associated infrastructure, such as bleachers, bullpens, shaded dugouts, lighting, and connecting sidewalks. The project would not include the development of residential units and would, therefore, not generate an increase in residents who would use parks and recreational facilities in the city.

Construction of the proposed project would involve obtaining all necessary permits in coordination with the City and other appropriate agencies. Considering that the proposed project would not result in a project-specific impact related to recreation, the proposed project would result in ***no additional significant environmental effects*** beyond the effects analyzed in the Master EIR.

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.

Transportation and Circulation

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
12. TRANSPORTATION AND CIRCULATION Would the project:			
A) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities?			X
B) Would the project conflict or be inconsistent with State CEQA Guidelines Section 15064.3, subdivision (b)?			X
C) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X
D) Result in inadequate emergency access?			X

ENVIRONMENTAL SETTING

The proposed project is in the northeastern portion of Sacramento, within the larger Del Paso Regional Park. Regional access to the project site is provided by I-80, which is located approximately 750 feet north of the project site with on- and off-ramps at SR 44 and Auburn Boulevard and at Watt Avenue. Implementation of the proposed project would include roadway and sidewalk frontage improvements along Auburn Boulevard and Bridge Road.

The project site is bounded by Auburn Boulevard to the south and single-family homes along Park Road to the north, and Bridge Road borders the project side on the west side. Auburn Boulevard is classified as a major collector in the 2035 General Plan.[91] In the project vicinity, Auburn Boulevard between Watt Avenue and the freeway on-ramps is a four-lane road and carries approximately 18,800 trips per day and operates at an acceptable LOS.[92]

Business 80, also known as the Capital City Freeway or SR 51, extends northeast from Downtown Sacramento, connecting to I-80 just east of Watt Avenue. In addition to serving as a link to the Central City, Business 80 provides access to major regional destinations, including

[91] City of Sacramento. 2015. *Sacramento 2035 General Plan Background Report, Chapter 3: Mobility*. Figure 3-5: Existing Bicycle Facilities. Adopted March 3. Available at: https://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/General-Plan/2035-GP/Chapter-3---Mobility.pdf?la=en. Accessed May 2023.

[92] Ibid.

Cal Expo and Arden Fair Mall. Business 80 is a six- to 10-lane freeway within the city, and has one high-occupancy vehicle (HOV) lane in either direction between E Street and SR 99.[93]

Both Park Road and Bridge Road in the immediate vicinity of the project site are two-lane local streets that serve the neighborhood.

Gaps exist in the sidewalks along the north side of Auburn Boulevard, or the southern project frontage. There are no sidewalks along Bridge Road.

Sacramento Regional Transit (RT) operates bus service along Auburn Boulevard, with several bus stops in proximity to Del Paso Regional Park. The nearest transit stops to the project are located along Auburn Boulevard. The stops are served by RT Route 001 to Sunrise Mall Transit Center or Watt I-80 Light Rail Station. There is no bus service on Park Road or Bridge Street. A light rail station is located approximately 0.5-mile northwest of the park.

There is a Class I Bike Path parallel to Auburn Boulevard west of Watt Avenue. A striped Class II Bike Lane located on the north side Auburn Boulevard terminates at the entrance to the parking lot of the Outreach and Engagement Center, approximately 500 feet west of the project site.[94]

The project site is also subject to the *City of Sacramento Pedestrian Master Plan* (2006), *City of Sacramento Bicycle Master Plan* (2016), and *Sacramento Area Council of Governments Metropolitan Transportation Plan/Sustainable Communities Strategy* (SACOG MTP/SCS) (2016).

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 2035 General Plan policies or mitigation from the Master EIR:

- Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities?
- Would the project conflict or be inconsistent with State CEQA Guidelines Section 15064.3, subdivision (b)?
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- Result in inadequate emergency access?

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. 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); support

[93] Ibid.

[94] Ibid.

for state highway expansion and management consistent with the SACOG MTP/SCS (Policy M 1.5.6); and development that encourages walking and biking (Policy LU 4.2.1).

While the 2035 General Plan includes numerous policies that direct the development of the City's transportation system, the Master EIR concluded that the 2035 General Plan development would result in significant and unavoidable effects. See Impact 4.12-3 (roadway segments in adjacent communities) and Impact 4.12-4 (freeway segments).

ANSWERS TO CHECKLIST QUESTIONS

Question A (Circulation System)

The proposed project is consistent with the land use designations within the 2035 General Plan Land Use and Urban Design Element and the policies within the 2035 General Plan Mobility Element. The City's Master EIR analyzed potential impacts related to increased development within the city based on the land use designations within the 2035 General Plan. The park improvements and changes to the western parking lot would not alter vehicle circulation or site access, i.e., via Auburn Boulevard and Bridge Road. Among the proposed park improvements to Renfree Field would be provision of on-site bicycle parking facilities, pedestrian walkways throughout the project site, and improvements to the Bridge Street frontage, including a new sidewalk along a portion of Auburn Boulevard. Although the project is not anticipated to result in substantial increases in pedestrian or bicycle traffic in the area any increases in such resulting from implementation of the proposed project have been planned for in the 2035 General Plan and analyzed in the Master EIR.

The project proposes construction of 75 linear feet of a new 5-foot-wide sidewalk along the northern side of Auburn Boulevard (project's southern frontage). The proposed project would include a total of 77 surface parking spaces, reducing the on-site parking total by approximately 50 spaces. The existing 21-space parking lot on the east side of the project site would remain. The overall parking breakdown would be: 28 standard spaces, two ADA spaces, and a drop-off area in the northwestern corner between the courts and parking lot.

As stated above, RT Route 001 provides transit opportunities in the vicinity of the project site. The project is not anticipated to add noticeable transit demand; however, any demand added to the transit system could be adequately accommodated by the existing/planned transit system and has been anticipated in the 2035 General Plan and Master EIR. The project would not conflict with the *2035 General Plan Mobility Element*, the *City of Sacramento Pedestrian Master Plan*, the *City of Sacramento Bicycle Master Plan*, the SACOG MTP/SCS, or any other applicable adopted policy, plan, or program supporting alternative transportation. Consequently, the proposed improvements to Renfree Field would result in ***no additional significant environmental effects*** beyond the effects analyzed in the Master EIR.

Question B (Vehicle Miles Traveled)

Based on current practices of the City, transportation impacts are considered significant if the proposed project would result in a VMT per capita or office VMT per employee above 85% of the regional average, consistent with technical guidance published by the Governor's Office of Planning and Research (OPR). The OPR guidance does not specify a particular significance threshold for Public Facility/Services (i.e., neighborhood parks, community centers, government office, utility, and school facilities) and recommends that local jurisdictions determine this threshold based on local conditions. Some jurisdictions in the Sacramento region (including Sacramento County VMT Guidance, adopted October 2020) have determined that a

neighborhood park would be considered local serving. The draft City of Sacramento Transportation Impact Analysis Guidelines do not specify a significant threshold for Public Facility/Services. Therefore, the proposed project would not conflict or be inconsistent with State CEQA Guidelines Section 15064.3(b), and the proposed project would have ***no additional significant environmental effects*** beyond what was previously evaluated in the Master EIR.

Question C (Hazards)

The proposed project would renovate an existing recreational facility and extend pedestrian infrastructure. The roadway alignment in the project area would be unchanged, and the project would continue to provide access to the recreational facility via Bridge Road. Implementation of the project would include sidewalk frontage improvements along Auburn Boulevard and throughout the project site.

The project would continue to provide vehicle access to the site and improve pedestrian circulation within the vicinity. The project would not include modifications to the widths of roadways surrounding the project site. As such, the project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment), and the project would have ***no additional significant environmental effect*** beyond what was previously evaluated in the Master EIR.

Question D (Emergency Vehicles)

Construction activities on the project site are not anticipated to affect or close any of the surrounding streets. Construction staging would occur on the existing parking lots west of Renfree Field. There are no closures, detours, or significant delays anticipated with construction activities. Access for emergency vehicles would be maintained during project construction and operation.

The project would comply with all electrical, fire, and safety codes and would be subject to review and approval by the City Public Works Department and Sacramento Fire Department. The project would not result in inadequate emergency access to the project site, and the project would have ***no additional significant environmental effect*** beyond what was previously evaluated in the Master EIR.

MITIGATION MEASURES

None required.

FINDINGS

The proposed project would be consistent with the land use designations within the 2035 General Plan, and potential impacts relating from development of the project site for such uses has been previously analyzed in the Master EIR. As discussed above, implementation of the proposed project is not anticipated to result in significant 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.

Tribal Cultural Resources

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
13. TRIBAL CULTURAL RESOURCES Would the project:			
A) Cause a substantial adverse change in the significance of a tribal cultural resource, as defined in Public Resources Code 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:			
i. 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		X	
ii. 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.		X	

ENVIRONMENTAL SETTING

Please reference the Cultural Resources section of this IS/MND and the CRTR appended to the IS/MND (see **Appendix D**)[95] for the ethnohistory of the historic indigenous groups that occupied the region.

This section analyzes and evaluates the potential impacts of the project on tribal cultural resources, both identified and undiscovered. Tribal cultural resources, as defined by AB 52, Statutes of 2014, in PRC Section 21074, are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a tribe. A tribal cultural landscape is defined as a geographic area (including both cultural and natural resources and the wildlife therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values.

The unanticipated find of Native American human remains would also be considered a tribal cultural resource and is therefore analyzed in this section.

[95] SWCA Environmental Consultants (SWCA). 2023. *Cultural Resources Technical Report for the Renfree Field Renovation Project, Sacramento, Sacramento County, California*. Prepared for City of Sacramento. August. Included as **Appendix D**.

The project site is situated within the lands traditionally occupied by the Northern Sierra Miwok, Valley Nisenan, or Southern Maidu. Many descendants of Northern Sierra Miwok and Valley Nisenan throughout the larger Sacramento region belong to the UAIC, Shingle Springs, Ione Band, Colfax-Todds Valley, and Wilton Rancheria Tribes. The tribes actively participate in the identification, evaluation, preservation, and restoration of tribal cultural resources.

DATA SOURCES/METHODOLOGY

Under PRC Section 21080.3.1 and 21082.3, the City must consult with tribes traditionally and culturally affiliated with the project area that have requested formal notification and responded with a request for consultation. The parties must consult in good faith. Consultation is deemed concluded when the parties agree to measures to mitigate or avoid a significant effect on a tribal cultural resource when one is present or when a party concludes that mutual agreement cannot be reached. Mitigation measures agreed on during the consultation process must be recommended for inclusion in the environmental document.

NATIVE AMERICAN CONSULTATION

A records search request of the NAHC SLF was made on November 22, 2022, with the intent of identifying sensitive areas and obtaining a list of Native American tribes and/or individuals who may have specific knowledge of the vicinity. The NAHC responded on December 9, 2022, indicating the results of the SLF search were positive and providing a list of Native American tribes and individuals who may also have knowledge of cultural resources within the project site and vicinity. Having received no responses from the SLF file search, SWCA staff conducted follow-up phone calls to each of the identified tribal representatives on February 14, 2023. SWCA was able to contact one representative, who stated that the project vicinity has heightened pre-contact sensitivities, stated that special consideration should be paid to areas where depth of disturbance exceeds 3 feet below grade, and identified an MLD. No other responses were received by SWCA.

To satisfy the requirements under AB 52, official consultation with Native American parties was conducted by the City staff from the Community Development Department, pursuant to PRC Section 21080.3.1, as amended by the provisions of AB 52. Accordingly, the AB 52-compliant outreach and consultation are being conducted to assess the potential for tribal cultural resources, which may include, but are not limited to, those that are archaeological in nature; that is, a tribal cultural resource that may also be an archaeological resource.

On January 27, 2023, formal invitations to participate in AB 52 consultation on the proposed project were sent by the City to the tribal representation that have previously requested to receive notifications of proposed projects pursuant to Public Resources Code Section 21080.3.1 (AB 52). These tribes represented include:

- United Auburn Indian Community
- Wilton Rancheria
- Shingle Springs Band of Miwok Indians
- Buena Vista Rancheria of Me-Wuk Indians

The United Auburn Indian Community provided a request to AB 52 consultation on January 31, 2023, and closed consultation on May 15, 2023, with the inclusion of inadvertent or unanticipated discovery mitigation measures and a tribal monitor during ground disturbance activities. No response was received from Wilton Rancheria, the Shingle Springs Band of Miwok

Indians, or the Buena Vista Rancheria of Me-Wuk Indians within 30 calendar days of the request for formal invitation under AB 52.

As outlined above under the Cultural Resources section, qualified SWCA archaeologists conducted a records search to confirm previously recorded sites of archaeological nature within the project area. While no previous sites within the project area were identified, previously recorded archaeological sites were noted within a 0.25-mile radius, particularly along the Arcade Creek watershed. SWCA cultural resources specialists also conducted a pedestrian survey of the project area to observe evidence suggesting potential resources to be extant. The survey confirmed the developed nature of the site as a public park and recreational space, and SWCA staff did not observe any evidence of potential resources. The impacts to cultural resources identified above are specific to the perceived high sensitivity for archaeological resources and the potential for significant tribal cultural resources in the project vicinity, as illustrated in the positive SLF search results provided by the NAHC and through tribal outreach efforts. A review of ethnographic literature confirmed the project area is in the territory of the Nisenan, and significant villages once existed near the Sacramento and American Rivers.

REGULATORY SETTING

Federal

There are no federal plans, policies, or regulations related to tribal cultural resources that are directly applicable to the proposed project; however, NHPA Section 106 does require consultation with Native Americans to identify and consider certain types of cultural resources. Cultural resources of Native American origin identified as a result of the identification efforts conducted under NHPA Section 106 may also qualify as tribal cultural resources under CEQA.

State

California Environmental Quality Act — Statute and Guidelines

CEQA requires that public agencies that finance or approve public or private projects must assess the effects of the project on tribal cultural resources. Tribal cultural resources are defined in PRC 21074 as either a site, feature, place, or 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 that is (1) listed or determined eligible for listing in the CRHR or a local register, or (2) determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). In applying the criteria set forth in PRC Section 5024.1(c), the lead agency shall consider the significance of the resource to a California Native American Tribe.

California Public Resources Code Section 5024

PRC Section 5024.1 establishes the CRHR, which is the authoritative guide for identifying the state's historical resources to indicate what properties are to be protected, if feasible, from substantial adverse change. For a resource to be eligible for the CRHR, it must be more than 50 years old, retain its historic integrity, and satisfy one or more of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. Is associated with the lives of persons important in our past.

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
4. Has yielded, or may be likely to yield, information important in prehistory or history.

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, a tribal cultural resource is considered to be a significant resource if the resource is: 1) listed or eligible for listing in the CRHR or in a local register of historical resources; or 2) the resource has been determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c).

For purposes of this Initial Study, impacts on Tribal Cultural Resources may be considered significant if construction and/or implementation of the proposed project would result in the following:

- cause a substantial change in the significance of a tribal cultural resource as defined in Public Resources Code 21074.

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 pre-contact and historic resources (see Master EIR Chapter 4.4 and **Appendix D** of this IS/MND, B. Cultural Resources Appendix),[96] but did not specifically address Tribal Cultural Resources as that resource type had not yet been defined in CEQA at the time the Master EIR was adopted. The Master EIR identified significant and unavoidable effects on historic resources and archaeological resources, some of which could be tribal cultural resources as defined PRC 21074. Ground-disturbing activities resulting from implementation of development under the 2035 General Plan could affect the integrity of an archaeological site (which may be a tribal cultural resource), thereby causing a substantial change in the significance of the resource. Policies in the 2035 General Plan relevant to tribal cultural resources included reducing effects on cultural resources that may also be tribal cultural resources include identification of resources on project sites (Policy HCR 2.1.1); implementation of applicable laws and regulations (Policy HCR 2.1.2); consultation with appropriate organizations and individuals including the NAHC and implementation of their consultation guidelines (Policy HCR 2.1.3); enforcement programs to promote the maintenance, rehabilitation, preservation, and interpretation of the City's historic resources (Policy HCR 2.1.4); listing of qualified historic resources under appropriate national, state, and local registers (Policy HCR 2.1.5); consideration of historic and cultural resources in planning studies (Policy HCR 2.1.6); enforcement of compliance with local, state, and federal historic and cultural preservation requirements (Policy HCR 2.1.8); and early consultation with owners and land developers to minimize effects (Policy HCR 2.1.10).

Of particular relevance to this project are policies that ensure compliance with protocol that protect or mitigate impacts to archaeological resources (Policy HCR 2.1.16) and encourage preservation and minimization of impacts on cultural resources (Policy HCR 2.1.17).

[96] SWCA Environmental Consultants (SWCA). 2023. *Cultural Resources Technical Report for the Renfree Field Renovation Project, Sacramento, Sacramento County, California*. Prepared for City of Sacramento. August. Included as **Appendix D**.

MITIGATION MEASURES FROM 2035 GENERAL PLAN MASTER EIR THAT APPLY TO THE PROJECT

None. As noted above, the Master EIR did not specifically address tribal cultural resources but did address archaeological resources and other cultural resources and noted that because the presence of significant archaeological resources is typically unknown until the resource is uncovered, which often occurs during ground-disturbing activities, adverse effects may occur prior to discovery of the archaeological resources. Therefore, although laws and regulations combined with 2035 General Plan policies would substantially reduce impacts to these resources once they are discovered, the initial impacts that might occur prior to discovery would be considered potentially significant and protection of all important archaeological resources from damage or destruction cannot be assured.

ANSWERS TO CHECKLIST QUESTIONS

This analysis is based on a CRTR prepared for the project (see **Appendix D**).[97]

Question A (Register of Historical Resources, Tribal Significance)

Cultural resources are generally defined in PRC Section 21074 as either a site, feature, place, or 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.

A records search request of the SLF was made to NAHC on November 22, 2022, with the intent of identifying sensitive areas and obtaining a list of Native American tribes and/or individuals who may have specific knowledge of the vicinity. The NAHC responded on December 9, 2022, indicating results of the SLF search were positive and providing a list of Native American tribes and individuals who may also have knowledge of cultural resources in the project area.

Pursuant to PRC 20180.3.1 and AB 52, on January 27, 2023, formal notification of the project and an invitation to participate in AB 52 consultation were sent by the City to the tribal representatives that previously requested to receive proposed project notifications. The tribes represented included the UAIC, Wilton Rancheria, Shingle Springs Band of Miwok Indians, and the Buena Vista Rancheria of Me-Wuk Indians.

The UAIC provided a request for consultation on January 31, 2023. In response to the City's notification of the project, the UAIC conducted a records search for the identification of tribal cultural resources, which included a review of pertinent literature and historic maps and a records search using UAIC's Tribal Historic Information System (THRIS). The THRIS database is composed of UAIC's areas of oral history, ethnographic history, and places of cultural and religious significance, including UAIC Sacred Lands that are submitted to the NAHC. The THRIS resources shown in this region also include previously recorded indigenous resources identified through the CHRIS as well as historic resources and survey data. For the subject property, the UAIC requested mitigation measures for tribal monitors and unanticipated discoveries be included in the environmental document and agreed to close consultation on May 15, 2023.

A response was received from the Shingle Springs Band of Miwok Indians after 30 days of receipt of the formal notification. Wilton Rancheria and the Buena Vista Rancheria of Me-Wuk Indians did not respond to the formal notification.

[97] SWCA Environmental Consultants (SWCA). 2023. *Cultural Resources Technical Report for the Renfree Field Renovation Project, Sacramento, Sacramento County, California*. Prepared for City of Sacramento. August. Included as **Appendix D**.

Implementation of **Mitigation Measures TCR-1**, **TCR-2**, **TCR-3**, and **TCR-4**, which mirror the mitigation measures outlined under the Cultural Resources section (**CUL-1**, **CUL-2**, and **CUL-4**), would reduce the potential impact to a less-than-significant level. Therefore, 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.

TCR-1 Tribal Cultural Resources Sensitivity Awareness Training

The WEAP training outlined under Mitigation Measure CUL-1 shall be developed in coordination with the consulting and/or culturally affiliated Native American tribes to ensure appropriate information is presented to contractor and field staff related to tribal cultural resources. The WEAP training shall also describe appropriate avoidance and impact minimization measures for tribal cultural resources that could be located at the project site and shall outline what to do and who to contact if any potential tribal cultural resources are encountered. The WEAP shall emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and shall discuss appropriate behaviors and responsive actions, consistent with Native American tribal values.

TCR-2 Native American Tribal Monitoring

A Native American Tribal Monitor (Tribal Monitor) shall be contracted to perform construction monitoring duties as representatives of associated tribal governments, specifically the UAIC. The use of the Tribal Monitor shall only occur in areas where ground-disturbing activities are occurring at locations or depths identified as having heightened significance. Generally, monitoring would be required where the depth of disturbance exceeds three feet below grade; however, activities within the northern boundary beyond the current Renfree Field outfield that exceed a depth of disturbance of 6 inches below grade would also trigger tribal monitoring.

Consulting tribes, including the UAIC, shall be notified at least 2 weeks prior to the triggering ground-disturbing activities are scheduled to occur so that a qualified Tribal Monitor may be contracted. Notification for the selected Tribal Monitor to mobilize shall be provided 48 hours prior to the ground-disturbing activity.

The Tribal Monitor shall document monitoring activities in a Tribal Monitor log, which shall be compiled and provided to the City and/or contractor as part of the administrative record. In the event that cultural materials are identified as part of the monitoring process, only the Tribal Monitor or other qualified representative of a consulting Native American tribe has the expertise to formally identify any tribal cultural resources or other objects.

TCR-3 Unanticipated Discovery Protocols

Similar to Mitigation Measure CUL-2 related to inadvertent discoveries, if tribal cultural resources (such as structural features, unusual amounts of bone or shell, artifacts, or human remains) are encountered at the project site during construction,

work shall be suspended within 100 feet of the find (based on the apparent distribution of tribal cultural resources), and the construction contractor shall immediately notify the project's City representative. Avoidance and preservation in place are the preferred manners of mitigating impacts to tribal cultural resources. This shall be accomplished, if feasible, by several alternative means, including:

- Planning construction to avoid tribal cultural resources, archaeological sites, and/or other cultural resources; incorporating cultural resources within parks, green-space or other open space; covering archaeological resources; 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 shall be reviewed by the City representative, interested culturally affiliated Native American tribes, and other appropriate agencies, in light of factors such as costs, logistics, feasibility, design, technology and social, cultural and environmental considerations, and the extent to which avoidance is consistent with project objectives. Avoidance and design alternatives may include realignment within the project site to avoid tribal cultural resources, modification of the design to eliminate or reduce impacts to tribal cultural resources or modification or realignment to avoid highly significant features within a cultural resource or tribal cultural resource.
- Native American representatives from interested culturally affiliated Native American tribes shall be notified 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 tribal cultural resource can be avoided, the construction contractor(s) shall install protective fencing outside the site boundary, including a 100-foot buffer area, before construction restarts. The boundary of a tribal cultural resource shall be determined in consultation with interested culturally affiliated Native American tribes and tribes shall be notified to monitor the installation of fencing. Use of temporary and permanent forms of protective fencing shall be determined in consultation with Native American representatives from interested culturally affiliated Native American tribes.
- The construction contractor(s) shall maintain the protective fencing throughout construction to avoid the site during all remaining phases of construction. The area shall be demarcated as an Environmentally Sensitive Area.

If a tribal cultural resource cannot be avoided, the following performance standard 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 shall be evaluated for CRHR eligibility through application of established eligibility criteria (CCR Section 15064.636), in consultation with consulting Native American tribes, as applicable.

If a tribal cultural resource is determined to be eligible for listing in the CRHR, the City shall avoid damaging effects to the resource in accordance with PRC Section 21084.3, if feasible. The City shall coordinate the investigation of the find

with a qualified archaeologist (meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology) approved by the City and with interested culturally affiliated Native American tribes that respond to the City's notification. 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 shall be documented in the project record. For any recommendations made by interested culturally affiliated Native American tribes that are not implemented, a justification for why the recommendation was not followed shall be provided in the project record.

Native American representatives from interested culturally affiliated Native American tribes and the City representative shall also consult to develop measures for long-term management of any discovered tribal cultural resources. Consultation shall be limited to actions consistent with the jurisdiction of the City and taking into account ownership of the subject property. To the extent that the City has jurisdiction, routine operation and maintenance within tribal cultural resources retaining tribal cultural integrity shall be consistent with the avoidance and minimization standards identified in this mitigation measure.

If the City determines that the project may cause a significant impact 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:

- 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.
- Treat the resource with culturally appropriate dignity taking into account the Tribal cultural values and meaning of the resource, including, but not limited to, the following:
    - Protect the cultural character and integrity of the resource.
    - Protect the traditional use of the resource.
    - Protect the confidentiality of the resource.
- Establish permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or using the resources or places.
- Protect the resource.

TCR-4 Tribal Cultural Protocols for Inadvertent Discovery of Human Remains

As outlined under Mitigation Measure CUL-4, if an inadvertent discovery of human remains is made at any time during project-related construction activities or project planning, the City shall ensure that the following performance standards shall be met prior to implementing or continuing actions such as construction, which 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 remains 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 human remains are of historic age and are determined to be not of Native American origin, the City shall 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.

If the Coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (California Health and Safety Code Section 7050©). After the Coroner's findings have been made, the archaeologist and the NAHC-designated 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 PRC Section 5097.9 et seq.

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***.

Utilities and Service Systems

Issues:	Effect will be studied in the EIR	Effect can be mitigated to less than significant	No additional significant environmental effect
14. UTILITIES AND SERVICE SYSTEMS Would the project:			
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 existing Renfree Field and associated park features are currently served by existing utilities within the adjacent roadway network along Auburn Boulevard and Bridge Road. Existing utilities in proximity to the project site include natural gas, water, sewer, and telecommunications service. The proposed park improvements include the extension/upgrade of utilities for electricity, domestic and irrigation water services, and storm drainage, as shown on **Figure 6: Proposed Excavation Plan**.

Wastewater

The project site is in the Sacramento Regional County Sanitation District (SRCSD) service area, which provides wastewater collection (sewer) within the project area. An existing Sacramento Area Sewer District (SASD) collector line is located underneath Auburn Boulevard. The project site is in the City Department of Utilities drainage district.

Water

The City provides domestic water service to Del Paso Regional Park and the surrounding area and obtains water from the American and Sacramento Rivers and groundwater wells. The project site overlies the North American Groundwater Basin. Water supply and service is provided by the City and other water purveyors. Domestic and irrigation water is provided by the City of Sacramento Water, the municipal water service.

SMUD is the utility provider for electricity. The project site is in Ward 7 of the SMUD service area.

Solid Waste Service

The City regulates and enforces commercial solid waste and generation but does not provide commercial solid waste collection services. Commercial garbage, recycling, commingled recycling, and yard waste services are provided by a City Commercial Solid Waste Franchised Hauler.[98] Trash pickup and waste services are provided by the municipal provider, City of Sacramento Solid Waste Services.

Solid waste collected in the north region of the city is transported to the Sacramento County North Area Recovery Station (NARS). From there, solid waste is transported to the Sacramento County Kiefer Landfill. Commercial solid waste can also be taken to the Yolo County Landfill, L and D Landfill, Florin Perkins Landfill, and Elder Creek Transfer Station.[99]

According to the Master EIR, the Kiefer 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, including the anticipated population growth, until the year 2065.[100]

[98] City of Sacramento. 2022. Commercial Solid Waste & Construction Services. Available at: http://www.cityofsacramento.org/Public-Works/RSW/Collection-Services/Commercial-Services. Accessed May 2023.

[99] City of Sacramento. 2015. *Sacramento 2035 General Plan Background Report, Chapter 4 Utilities*. Adopted March 3. Available at: http://www.cityofsacramento.org/-/media/Corporate/Files/CDD/Planning/General-Plan/2035-GP/Chapter-4---Utilities.pdf?la=en. Accessed May 2023.

[100] Ibid.

Electricity

Electrical service in the city of Sacramento is provided by SMUD, and natural gas is provided by PG&E. There are aboveground electrical lines along Park Road, and gas lines are located within the Park Road right-of-way.

STANDARDS OF SIGNIFICANCE

For purposes of this Initial Study, impacts to utilities are considered significant if the proposed project would do either of 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 Master EIR 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 2035 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

Question A (System Capacity) and Question B (New Infrastructure)

Wastewater

As stated above, the project site is in the Sacramento Regional County Sanitation District (SRCSD) service area, which provides wastewater collection (sewer) within the project area. The proposed park improvements would be consistent with the existing 2035 General Plan land use designations for the site. The 2035 General Plan land use designations for the City are the basis for wastewater demand estimation and infrastructure planning within the city. Because the project is consistent with the 2035 General Plan, increased demand from development of the project site for the proposed uses has been generally anticipated.

Electricity

Approximately nine new light posts would be installed in the western parking lot. The proposed project would replace the existing outfield lighting with approximately eight field lighting towers sited around the proposed baseball and soccer fields. After completion of construction, there would be 17 light posts/towers on the project site. The proposed utility work associated with the

park improvements would connect to the electrical lines located along Auburn Boulevard and/or Bridge Road.

The replacement of the existing lighting system with more efficient LED lighting would result in an overall decrease in demand for electrical energy relative to the previous field lighting technology. Because the proposed park improvements are consistent with the 2035 General Plan, increased demand associated with park use has been generally anticipated.

Therefore, adequate capacity exists to serve the project site's electricity demands. Therefore, the proposed project would have ***no additional significant environmental effects*** related to electricity.

Water

The City of Sacramento is responsible for providing and maintaining water for the project site. The *City of Sacramento 2020 Urban Water Management Plan* (2020 UWMP) analyzes the water supply, water demand, and water shortage contingency planning for the City's service area, which includes the project site. According to the 2020 UWMP, under all drought conditions, the City possesses sufficient water supply entitlements to serve customers and withstand the effects of a single dry year and a five-year drought at any period between 2025 and 2045.[101]

Sustainable design and maintenance features to be included with the proposed park renovation include required elements such as adherence to the City's Model Water Efficient Landscape Ordinance (MWELO) and inclusion of LID strategies to infiltrate stormwater and reduce run-off and "River Friendly Landscaping" program practices.

The proposed park improvements are consistent with land use and zoning designations and would not generate an increase in demand from what has already been anticipated in the Master EIR. As such, adequate capacity is expected to be available to serve the proposed project's water demands. Therefore, the proposed project would have ***no additional significant environmental effects*** related to water services and capacity.

Solid Waste

The project would generate solid waste from the temporary construction activities and operation of the park facility. The project would comply with the City's Construction and Demolition ordinance, which requires that 65 percent of all debris generated during project construction must be recycled. The project would also comply with all other federal, state, and local statutes and regulations related to solid waste. Therefore, the proposed project would have ***no additional significant environmental effects*** related to solid waste services and capacity.

MITIGATION MEASURE

None required.

[101] City of Sacramento. 2021. *City of Sacramento 2020 Urban Water Management Plan*. June. Available at: https://www.cityofsacramento.org/-/media/Corporate/Files/DOU/Reports/Sacramento-2020-UWMP---Final-w-Ltr-of-Acceptance.pdf?la=en. Accessed May 2023.

FINDINGS

The proposed project would have no additional project-specific environmental effects relating 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.

Mandatory Findings of Significance

Issues:	Effect remains significant with all identified mitigation	Effect can be mitigated to less than significant	No additional significant environmental effect
15. MANDATORY FINDINGS OF SIGNIFICANCE			
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

Questions A (Wildlife and History)

With implementation of project-specific mitigation measures, the proposed improvements to Renfree Field in the Del Paso Regional Park would not adversely impact sensitive natural communities or special-status animals. However, a small potential exists for previously undiscovered cultural resources and tribal cultural resources and/or human remains to be unearthed during demolition and site grading activities. The proposed project would implement and comply with applicable 2035 General Plan policies, as discussed throughout this IS/MND. With implementation of the mitigation measures required by this IS/MND, compliance with 2035 General Plan policies, and application of standard BMPs during construction, implementation of the proposed park improvements would not result in any of the following:

- degrade the quality of the environment;

- substantially reduce or impact the habitat of fish or wildlife species;
- cause fish or wildlife populations 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.

Therefore, the proposed project's impact would be less than significant, and ***no additional significant environmental effects*** would occur with implementation of the proposed project.

Question B (Cumulatively Considerable)

The proposed project would replace Renfree Field and a portion of an existing surface parking lot with two baseball fields, a soccer field, and pickleball and basketball courts. Associated infrastructure such as bleachers, bullpens, shaded dugouts, lighting, and connecting sidewalks would be replaced. The proposed improvements to Renfree Field within Del Paso Regional Park are consistent with the 2035 General Plan land use designation for the site. Thus, the proposed project was generally anticipated by the City per the 2035 General Plan. As such, the proposed project was included in the cumulative analysis of City buildout in the Master EIR. Applicable policies from the 2035 General Plan would be implemented as part of the proposed park improvements, as well as the project-specific mitigation measures included in this IS/MND, to reduce the proposed project's contribution to potentially cumulative impacts. The potential impacts of the proposed park improvements would be individually limited and would not be cumulatively considerable. As demonstrated in this IS/MND, all potential environmental impacts that could occur as a result of project implementation would be reduced to a less-than significant level with implementation of project-specific mitigation measures and compliance with applicable 2035 General Plan policies. When viewed in conjunction with other closely related past, present, or reasonably foreseeable future projects, development of the proposed project would not contribute to cumulative impacts in the city of Sacramento, and ***no additional significant environmental effects*** would occur with implementation of the proposed project.

Question C (Effects on Humans)

As described throughout this IS/MND, implementation of the proposed project could result in temporary impacts related to biological resources, cultural resources, and tribal cultural resources. In addition to the project-specific mitigation measures within this IS/MND, the proposed project would be required to implement all applicable policies of the 2035 General Plan. Implementation of all such mitigation measures and policies would reduce any potential direct or indirect impacts that could occur to human beings or various resources and, as demonstrated in this IS/MND, all impacts would be reduced to less-than-significant levels. Therefore, the proposed project's impact would be less than significant, and ***no additional significant environmental effects*** would occur with implementation of the proposed project.

SECTION IV - ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would potentially be affected by this project:

	Aesthetics		Hazards
X	Air Quality		Noise
X	Biological Resources		Public Services
X	Cultural Resources		Recreation
	Energy and Mineral Resources		Transportation/Circulation
	Geology and Soils	X	Tribal Cultural Resources
	Greenhouse Gas Emissions		Utilities and Service Systems
	Hydrology and Water Quality		
	None Identified		

SECTION V - DETERMINATION

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 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 (State CEQA Guidelines Section 15178(b)).

Ron Bess — September 1, 2023

Signature — Date

Ron Bess

Printed Name

REFERENCES CITED

It should be noted that all the technical reports used for the purposes of the analysis throughout this IS/MND are available in the Initial Study Appendix and upon request at the City of Sacramento Community Development Department located at 300 Richards Boulevard, Third Floor, Sacramento, CA 95811. Documents referenced as information sources used for the analysis within this IS/MND are provided in the project's Administrative Record.

APPENDIX A

Proposed Project Plans

APPENDIX A

Proposed Project Plans

CITY OF SACRAMENTO

DEPARTMENT OF YOUTH, PARKS & COMMUNITY ENRICHMENT

PARK PLANNING AND DEVELOPMENT SERVICES, LANDSCAPE ARCHITECTURE SECTION

CONSTRUCTION PLANS FOR:

RENFREE FIELD RENOVATION

DEL PASO REGIONAL PARK

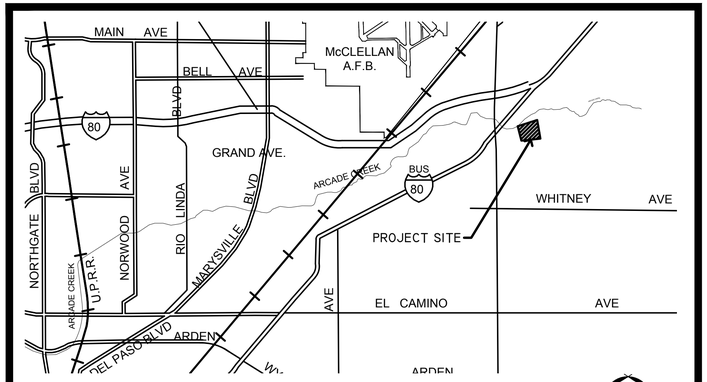
ADDRESS: 3365 AUBURN BLVD, SACRAMENTO, CA 95821

PROJECT NUMBER: LI9-3000-02

PARCEL NO.: 240-0342-011-0000

TOTAL AREA DISTURBED: 10.2ACRES

WDID:



VICINITY MAP

NOT TO SCALE

NORTH



LOCATION MAP

NOT TO SCALE

NORTH

GENERAL NOTES

1. COORDINATION OF CONTRACT DOCUMENTS: REFER TO SECTION 5-3 COORDINATION OF CONTRACT DOCUMENTS OF THE CITY OF SACRAMENTO STANDARD SPECIFICATIONS FOR PUBLIC CONSTRUCTION DATED JUNE 2007 INCLUDING ALL APPLICABLE ADDENDA AND MEMORANDA.
2. TRAFFIC CONTROL REQUIREMENT: REFER TO SECTION 6-10 TRAFFIC CONTROL REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR REQUIREMENTS.
3. EXISTING FACILITIES: REFER TO SECTION 13 EXISTING FACILITIES OF THE STANDARD SPECIFICATIONS FOR REQUIREMENTS.
4. LOCATION AND PROTECTION OF EXISTING UTILITIES: REFER TO SECTION 6-19 MAIN AND TRUNKLINE UTILITIES OF THE STANDARD SPECIFICATIONS FOR REQUIREMENTS. PURSUANT TO THIS SECTION THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF ALL EXISTING UTILITIES AND PROTECTING AND REPAIRING DAMAGE TO EXISTING UTILITIES. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (1-800-642-2444) TWO WORKING DAYS PRIOR TO WORK COMMENCEMENT.
5. PERMANENT SURVEY MONUMENTS: REFER TO SECTION 5-6 PERMANENT SURVEY MONUMENT OF THE STANDARD SPECIFICATIONS FOR REQUIREMENTS.
6. IF HUMAN BURIALS ARE ENCOUNTERED: ALL WORK IN THE AREA SHALL STOP IMMEDIATELY AND THE CITY OF SACRAMENTO AND THE SACRAMENTO COUNTY CORONER'S OFFICE SHALL BE NOTIFIED IMMEDIATELY. IF THE REMAINS ARE DETERMINED TO BE NATIVE AMERICAN IN ORIGIN, BOTH THE NATIVE AMERICAN HERITAGE COMMISSION AND ANY IDENTIFIED DESCENDANTS MUST BE NOTIFIED AND RECOMMENDATIONS FOR TREATMENT SOLICITED. PURSUANT TO: CEQA SECTION 15064.5; HEALTH AND SAFETY CODE SECTION 7050.5; PUBLIC RESOURCES CODE SECTION 5097.94 AND 5097.98.
7. TRENCH SAFETY PLANS: REFER TO SECTION 6-8 TRENCH SAFETY PLANS OF THE STANDARD SPECIFICATIONS FOR REQUIREMENTS.
8. PROTECTION OF WORK, PERSONS AND PROPERTY AGAINST DAMAGE: REFER TO SECTION 7-7 PROTECTION OF WORK, PERSONS AND PROPERTY AGAINST DAMAGE OF THE STANDARD SPECIFICATIONS FOR REQUIREMENTS.
9. RECORD DRAWINGS: REFER TO SECTION 5-8 RECORD DRAWINGS OF THE STANDARD SPECIFICATIONS FOR REQUIREMENTS.
10. LAWS, REGULATIONS: REFER TO SECTION 6-1 LAWS TO BE OBSERVED AND SECTION 6-2 CERTAIN LAWS AFFECTING THE WORK OF THE STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS FOR REQUIREMENTS.

Stantec

Stantec Consulting Services Inc.
555 Capitol Mall Suite 650
Sacramento CA
95814-4583
Tel. (916) 442-3230
Fax. (916) 442-3249
www.stantec.com

811 Know what's below. Call before you dig.

SHEET INDEX

SHEET	DRAWING	TITLE
1	CV001	COVER SHEET
2	C01	GENERAL NOTES
3	LD101	EXISTING CONDITIONS & DEMOLITION PLAN
4	LD102	EXISTING CONDITIONS & DEMOLITION PLAN
5	C02	OVERALL GRADING PLAN
6	C03	PRECISE GRADING PLAN
7	C04	PRECISE GRADING PLAN
8	C05	WET UTILITY PLAN
9	C06	EROSION CONTROL PLAN
10	C07	DETAILS
11	LL101	LAYOUT PLAN
12	LL102	LAYOUT PLAN
13	LL501	LAYOUT DETAILS
14	LL502	LAYOUT DETAILS
15	LL503	LAYOUT DETAILS
16	LL504	LAYOUT DETAILS
17	LA101	ACCESSIBILITY PLAN
18	LA102	ACCESSIBILITY PLAN
19	LI101	IRRIGATION PLAN
20	LI102	IRRIGATION PLAN
21	LI501	IRRIGATION DETAILS
22	LI502	IRRIGATION DETAILS
23	LI502	IRRIGATION DETAILS
24	LI503	IRRIGATION CALCS AND SCHEDULES
25	LP101	PLANTING PLAN
26	LP102	PLANTING PLAN
27	LP103	PARKING LOT SHADE CALCULATIONS
28	LP501	PLANTING DETAILS

SHEET INDEX

SHEET	DRAWING	TITLE
29	E001	ELECTRICAL SYMBOLS, NOTES & ABBREVIATIONS
30	E002	ONE LINE DIAGRAM. PANEL SCHEDULES, LIGHTING FIXTURE SCHEDULE
31	E101	ELECTRICAL DEMOLITION PLAN
32	E201	ELECTRICAL LAYOUT PLAN
33	E202	ELECTRICAL LAYOUT PLAN & ENLARGED ELECTRICAL LAYOUT PLAN
34	E501	ELECTRICAL DETAILS
35	E601	TITLE 24 COMPLIANCE - OUTDOOR LIGHTING
36	E701	PHOTOMETRIC LIGHTING PLAN
37	E801	MUSCO FIELD AND COURT LIGHTING DESIGN
38	E802	MUSCO FIELD AND COURT LIGHTING DESIGN
39	E803	MUSCO FIELD AND COURT LIGHTING DESIGN
40	E804	MUSCO FIELD AND COURT LIGHTING DESIGN
41	E805	MUSCO FIELD AND COURT LIGHTING DESIGN
42	E806	MUSCO FIELD AND COURT LIGHTING DESIGN
43	E807	MUSCO FIELD AND COURT LIGHTING DESIGN
44	E808	MUSCO FIELD AND COURT LIGHTING DESIGN
45	E809	MUSCO FIELD AND COURT LIGHTING DESIGN
46	E8110	MUSCO FIELD AND COURT LIGHTING DESIGN
47	E8111	MUSCO FIELD AND COURT LIGHTING DESIGN

CITY REPRESENTATIVE:
DENNIS DAY
LANDSCAPE ARCHITECT
CITY OF SACRAMENTO, DEPT. OF YOUTH, PARKS & COMMUNITY ENRICHMENT
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR
SACRAMENTO, CA 95814
TELEPHONE: (916) 808-0000 FAX (916) 808-8275

APPROVED BY:

RAYMOND COSTANTINO, MANAGER PARK PLANNING & DEVELOPMENT SERVICES
YOUTH, PARKS AND COMMUNITY ENRICHMENT (DATE)

JASON WIESEMANN, SENIOR LANDSCAPE ARCHITECT (DATE)
YOUTH, PARKS AND COMMUNITY ENRICHMENT

APPLICABLE CODES:
2016 CALIFORNIA BUILDING CODE (CBC) WITH CITY OF SACRAMENTO AMENDMENTS
2016 CALIFORNIA PLUMBING CODE (CPC)
2016 CALIFORNIA ELECTRICAL CODE (CEC)

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
COVER SHEET

DESIGN BY: Stantec

DATE 05.01.2023

SCALE 1" = 30'-0"

P. N. LI9-3000-02

REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
CV001 of XX

CITY OF SACRAMENTO - GENERAL NOTES (REVISED 11/20)

1. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CITY OF SACRAMENTO STANDARD SPECIFICATIONS, DATED NOVEMBER, 2020 AND ALL APPLICABLE ADDENDA.
2. THE CONTRACTOR SHALL BE IN RECEIPT OF CITY ACCEPTED PLANS PRIOR TO BEGINNING CONSTRUCTION WITHIN THE STREET RIGHT-OF-WAY. ACCEPTANCE OF PLANS BY THE CITY OF SACRAMENTO IS BASED ON INFORMATION CONTAINED ON THE PLANS AND SUPPORTING DOCUMENTS, AND DOES NOT SUBROGATE THE DESIGN ENGINEER'S RESPONSIBILITY FOR THIS PROJECT. ANY AND/OR ALL ERRORS AND OMISSIONS ARE THE RESPONSIBILITY OF THE DESIGN ENGINEER.
3. CONTACT THE CITY OF SACRAMENTO CONSTRUCTION SECTION AT 808-8300 TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
4. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL EXISTING UTILITIES AND FOR THE PROTECTION OF AND REPAIR OF DAMAGE TO THEM. CONTACT UNDERGROUND SERVICE ALERT 1-800-642-2444, 48 HOURS BEFORE WORK IS TO BEGIN.
5. RESPONSIBILITY FOR FINAL ACCEPTANCE OF LINE AND GRADE BY THE CITY OF SACRAMENTO WILL BE ASSUMED ONLY IF CONSTRUCTION STAKES ARE SET BY THE CITY SURVEY CREWS OR THEIR DESIGNATED REPRESENTATIVE. CITY WILL SET CONSTRUCTION STAKES ONLY IF SO INDICATED ON THE "NOTICE TO PROCEED" WITH CONSTRUCTION ISSUED FOR THIS PROJECT. CONTACT CITY OF SACRAMENTO CONSTRUCTION SECTION TWO (2) WORKING DAYS IN ADVANCE FOR CONSTRUCTION STAKES WITHIN PUBLIC RIGHT-OF-WAY.
6. FOR ALL TRENCH EXCAVATIONS 5 FEET OR MORE IN DEPTH, THE CONTRACTOR SHALL OBTAIN A PERMIT FROM THE DIVISION OF INDUSTRIAL SAFETY (2424 ARDEN WAY, SUITE 165, SACRAMENTO --PHONE 916-263-2800) PRIOR TO BEGINNING ANY EXCAVATION. A COPY OF THIS PERMIT SHALL BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND FURNISH, INSTALL, AND MAINTAIN TEMPORARY SIGNS, BRIDGES, BARRICADES, FLAGMEN, AND OTHER FACILITIES TO ADEQUATELY SAFEGUARD THE GENERAL PUBLIC AND WORK, AND TO PROVIDE FOR THE PROPER ROUTING OF VEHICULAR AND PEDESTRIAN TRAFFIC. CONSTRUCTION OPERATIONS SHALL COMPLY WITH THE WORK AREA AND TRAFFIC CONTROL HANDBOOK (WATCH). THE CONTRACTOR SHALL PROVIDE TO THE CITY TRAFFIC ENGINEER FOR REVIEW, A PLAN SHOWING TRAFFIC CONTROL MEASURES AND/OR DETOURS FOR VEHICLES AFFECTED BY THE CONSTRUCTION WORK. THE APPROVED PLAN SHALL BE DELIVERED TO THE CONSTRUCTION INSPECTOR PRIOR TO THE IMPLEMENTATION OF TRAFFIC CONTROL MEASURES.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING RECORD DRAWINGS FOR ALL WORK THROUGHOUT THE COURSE OF CONSTRUCTION. SUCH DRAWINGS SHALL RECORD THE LOCATION AND GRADE (CITY DATUM) OF ALL UNDERGROUND IMPROVEMENTS CONSTRUCTED AND SHALL BE DELIVERED TO THE CONSTRUCTION INSPECTOR PRIOR TO, AND IN CONSIDERATION, OF THE CITY'S ACCEPTANCE OF WORK.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS OR MARKERS DURING CONSTRUCTION.
10. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING DRAINAGE AND SEWER FACILITIES WITHIN THE CONSTRUCTION AREA UNTIL NEW DRAINAGE AND SEWER IMPROVEMENTS ARE IN PLACE AND FUNCTIONING.
11. IF UNUSUAL AMOUNTS OF BONE, STONE OR ARTIFACTS ARE UNCOVERED, WORK WITHIN 50 METERS OF THE AREA SHALL CEASE IMMEDIATELY AND A QUALIFIED ARCHAEOLOGIST SHALL BE CONSULTED TO DEVELOP, IF NECESSARY, MITIGATION MEASURES TO REDUCE ANY ARCHAEOLOGICAL IMPACT TO A LESS THAN SIGNIFICANT EFFECT BEFORE CONSTRUCTION RESUMES IN THE AREA.
12. COST TO REMOVE AND REPLACE EXISTING PAVEMENT OVER UTILITY LINE TRENCHES SHALL BE INCLUDED IN THE BID PRICE. TRENCHES SHALL BE BACKFILLED AND PAVEMENT SHALL BE REPLACED PER CITY DETAIL T-80. PAVEMENT SHALL BE REPLACED IN KIND (MINIMUM OF 4"AC ON 12"AB) AS DETERMINED IN THE FIELD BY THE CITY INSPECTOR. ALL STRIPING AND PAVEMENT MARKINGS SHALL BE RESTORED (IN THERMOPLASTIC).
13. PAVEMENT REPAIR NECESSARY DUE TO SUBSIDENCE RESULTING FROM TRENCH FAILURE OR OTHER DEFECTS IN WORKMANSHIP SHALL CONSIST OF KEY CUTTING AND OVERLAYING BETWEEN THE TWO NEAREST INTERSECTIONS, AS DETERMINED BY THE CITY INSPECTOR
14. SIDEWALK RAMPS SHALL BE CONSTRUCTED AT THE CENTER OF ALL ROUND CORNERS UNLESS OTHERWISE SHOWN. RAMPS SHALL COMPLY WITH THE MOST RECENT CITY STANDARD RAMP DETAILS, WHICH ARE AVAILABLE FROM THE CITY INSPECTOR.
15. PIPE AND MANHOLE DIMENSIONS ARE TO THE CENTERLINE, UNLESS OTHERWISE NOTED.
16. ALL TAPS 24 INCHES AND SMALLER INTO SEWER & DRAIN MANHOLES SHALL BE CORE BORED WITH KOR-N-SEAL TAPS OR APPROVED EQUAL.
17. ANY WATER ENTERING THE SANITARY SEWER SYSTEM TO BE CONSTRUCTED UNDER THESE PLANS SHALL NOT BE DISCHARGED TO THE EXISTING SYSTEM. PLUGS MUST BE INSTALLED IN EXISTING MANHOLES AS NECESSARY TO PERMIT PUMPING THE NEW SYSTEM CLEAR OF WATER AND DEBRIS PRIOR TO ACCEPTANCE. CARE SHALL BE EXERCISED IN LOCATING PLUGS TO AVOID INTERRUPTING SERVICES TO EXISTING CONNECTIONS. MORTAR OR BRICK PLUGS MUST BE USED, INFLATABLE DEVICES ARE NOT SATISFACTORY.
18. UNLESS OTHERWISE APPROVED, DRAIN PIPE MATERIAL SHALL BE EITHER REINFORCED CONCRETE PIPE CONFORMING TO ASTM, DESIGNATION C76 Class III, IV, V OR PVC SDR-35 OR AS SPECIFIED ON PLANS. USE RCP CLASS III OR PVC SDR-35 WITH 18" OR MORE MINIMUM COVER, RCP CLASS IV WITH 12" - 18" MINIMUM COVER, RCP CLASS IV ENCASED IN CDF WITH 6" - 12" MINIMUM COVER, AND CLASS 150 CEMENT MORTAR LINED DUCTILE IRON PIPE CONFORMING TO AWWA C151 ENCASED IN CDF WITH 0" - 6" MINIMUM COVER. IN ALL CASES, PROVIDE RUBBER GASKETED JOINTS. (NOTE: MINIMUM COVER IS FROM TOP OF AB TO TOP OUTISDE DIAMETER OF DRAIN PIPE)
19. DI INLET LEADS SHALL BE RCP CLASS III OR PVC SDR-35 WITH 18" OR MORE MINIMUM COVER, PVC C-900 CLASS 150 OR RCP CLASS IV WITH 12" - 18" MINIMUM COVER, RCP CLASS IV OR PVC C-900 BOTH ENCASED IN CDF WITH 6" - 12" MINIMUM COVER, OR DUCTILE IRON PIPE ENCASED IN CDF WITH 0" - 6" MINIMUM COVER. IN ALL CASES, PROVIDE RUBBER GASKETED JOINTS. (NOTE: MINIMUM COVER IS FROM TOP OF AB TO TOP OUTSIDE DIAMETER OF DRAIN PIPE)
20. SANITARY SEWER PIPE MAINS SHALL BE CONSTRUCTED OF V.C.P., A.B.S. OR PVC UNLESS OTHERWISE SPECIFIED ON THE PLANS.
21. ALL SEWER SERVICES SHALL BE CONSTRUCTED OF A.B.S. PIPE PER CITY STANDARD DRAWINGS S-260 AND S-265, UNLESS OTHERWISE NOTED ON THE PLANS.
22. ALL SEWER SERVICES SHALL BE 4"DIAMETER UNLESS OTHERWISE NOTED.
23. AGGREGATE SUBBASE SHALL CONFORM TO CALTRANS SPECIFICATIONS DATED: 2010, SECTION 25.
24. THE CONTRACTOR SHALL VIDEO RECORD ALL DRAIN AND SEWER PIPES PER CITY STANDARD SPECIFICATIONS.
25. UNLESS OTHERWISE APPROVED, THE CONTRACTOR SHALL BALL AND FLUSH ALL SEWER AND DRAIN SYSTEMS PRIOR TO VIDEO RECORDING. THESE SYSTEMS SHALL BE FREE OF DEBRIS PRIOR TO ACCEPTANCE OF WORK.
26. A STORM WATER PERMIT MUST BE OBTAINED WHEN CONSTRUCTION ACTIVITY RESULTS IN SOIL DISTURBANCE OF ONE (1) OR MORE ACRES. THE STATE WATER RESOURCES CONTROL BOARD, DIVISION OF WATER QUALITY, STORM WATER PERMIT UNIT, P.O. BOX 1977, SACRAMENTO, CA 95812-1977, SHALL BE CONTACTED TO OBTAIN THE PERMIT PRIOR TO BEGINNING CONSTRUCTION.
27. IF WORK SHOWN ON THESE PLANS HAS NOT COMMENCED WITHIN TWO YEARS FROM THE DATE OF THE CITY'S ACCEPTANCE OF THE PLANS, A SUBSEQUENT PLAN REVIEW AT THE CITY'S DISCRETION AND THE DEVELOPER'S EXPENSE MAY BE NECESSARY.
28. CONTRACTOR SHALL COMPLY WITH THE CITY OF SACRAMENTO ADMINISTRATIVE AND TECHNICAL PROCEDURES MANUAL FOR GRADING/EROSION AND SEDIMENT CONTROL.
29. CONSTRUCT SURVEY MONUMENT WELL PER STD. DWG. T-350 AT LOCATIONS INDICATED ON THE FINAL MAP.
30. CONCRETE RESTORATION: COLOR OF NEW CONCRETE SHALL MATCH ADJACENT EXISTING CONCRETE BY ADDING LAMP BLACK.
31. THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS.

CITY OF SACRAMENTO - OPTIONAL NOTES (REVISED 1/24/17)

1. THE EXACT WIDTH OF EXISTING PAVEMENT TO BE SALVAGED SHALL BE DETERMINED IN THE FIELD BY THE CONSTRUCTION SECTION.
2. EXISTING ASPHALT PAVEMENT SHALL BE CUT TO A NEAT STRAIGHT LINE. THE EXPOSED EDGE SHALL BE TACKED WITH EMULSION PRIOR TO PAVING.
3. THE EXACT LIMITS OF PAVEMENT OVERLAY SHALL BE DETERMINED IN THE FIELD BY THE CONSTRUCTION SECTION.
4. EXACT LIMITS OF CURB AND GUTTER, SIDEWALK, DRIVEWAY, AND PAVEMENT REMOVAL AND RECONSTRUCTION SHALL BE DETERMINED IN THE FIELD BY THE CONSTRUCTION SECTION.
5. COMPACTION OF TRENCH BACKFILL BY MEANS OF JETTING IS NOT PERMITTED.
6. GUTTER SLOPES FROM FLOWLINE TO LIP SHALL BE FIVE (5) PERCENT BETWEEN ROUND CORNER CURB RETURNS. THE FIVE (5) PERCENT SLOPED SHALL BE TRANSITIONED TO THE STANDARD GUTTER SLOPE OVER A DISTANCE OF THREE (3) TO FIVE (5) FEET, AS DIRECTED IN THE FIELD BY RESIDENT ENGINEER. THE GUTTER SLOPE ADJACENT TO HANDICAP RAMPS SHALL IN NO CASE BE GREATER THAN FIVE (5) PERCENT.
7. TOP (FINAL) LIFT OF AC SHALL BE 1/2-INCH MIX.

CITY OF SACRAMENTO - GRADING NOTES (REVISED 11/20)

1. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH CITY STANDARDS.
2. CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CITY OF SACRAMENTO STANDARD SPECIFICATIONS DATED: NOVEMBER, 2020 AND ALL APPLICABLE ADDENDA.
3. ALL GRADING SHALL COMPLY WITH THE RECOMMENDATIONS OF THE SOIL AND GEOLOGICAL INVESTIGATION PREPARED BY TERRACON, DATED SEPTEMBER 10, 2020.
4. ALL SLOPE BANKS ARE 2:1 MAXIMUM UNLESS OTHERWISE NOTED.
5. MAXIMUM TOLERANCE FROM PAD ELEVATIONS SHALL BE +/- 0.2'.
6. ANY GRADING OPERATIONS OUTSIDE OF SUBDIVISION BOUNDARY SHALL REQUIRE A RIGHT-OF-ENTRY.
7. ALL GRADING SHALL BE IN CONFORMANCE WITH THE CITY OF SACRAMENTO GRADING, EROSION, AND SEDIMENT CONTROL ORDINANCE (ORD.NO.93-068).
8. NO GRADING, TRENCHING, CUTTING AND/OR FILLING WITHIN THE DRIP LINE OF THOSE TREES, DESIGNATED ON THE SITE PLAN FOR PRESERVATION, SHALL OCCUR. NO ACTIONS SHALL BE TAKEN THAT WILL HARM THE HEALTH, VITALITY OR LONGEVITY OF THOSE TREES IDENTIFIED ON THE SITE PLAN FOR PRESERVATION.

CITY OF SACRAMENTO DEPARTMENT OF UTILITIES EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR SHALL FOLLOW THE GUIDELINES FOR THE CITY OF SACRAMENTO'S "ADMINISTRATIVE AND TECHNICAL PROCEDURES MANUAL FOR GRADING AND EROSION AND SEDIMENT CONTROL" FOR THE MEASURES SHOWN OR STATED ON THESE PLANS.
2. CONTRACTOR MUST ENSURE THAT THE CONSTRUCTION SITE IS PREPARED PRIOR TO THE ONSET OF ANY STORM. CONTRACTOR SHALL HAVE ALL EROSION AND SEDIMENT CONTROL MEASURES IN PLACE FOR THE WINTER MONTHS PRIOR TO OCTOBER 1.
3. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED. CHANGES TO THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE MADE TO MEET FIELD CONDITIONS ONLY WITH THE APPROVAL OF OR AT THE DIRECTION OF A REPRESENTATIVE OF THE DEPARTMENT OF UTILITIES.
4. THIS PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. VARIATIONS MAY BE MADE TO THE PLAN IN THE FIELD SUBJECT TO THE APPROVAL OF OR AT THE DIRECTION OF A REPRESENTATIVE OF THE DEPARTMENT OF UTILITIES.
5. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED BEFORE AND AFTER ALL STORMS TO ENSURE MEASURES ARE FUNCTIONING PROPERLY.
6. CONTRACTOR SHALL MAINTAIN A LOG AT THE SITE OF ALL INSPECTIONS OR MAINTENANCE OF BMPS, AS WELL AS, ANY CORRECTIVE CHANGES TO THE BMPS OR EROSION AND SEDIMENT CONTROL PLAN.
7. IN AREAS WHERE SOIL IS EXPOSED, PROMPT REPLANTING WITH NATIVE COMPATIBLE, DROUGHT-RESISTANT VEGETATION SHALL BE PERFORMED. NO AREAS WILL BE LEFT EXPOSED OVER THE WINTER SEASON.
8. THE CONTRACTOR SHALL INSTALL THE STABILIZED CONSTRUCTION ENTRANCE PRIOR TO COMMENCEMENT OF GRADING. LOCATION OF THE ENTRANCE MAY BE ADJUSTED BY THE CONTRACTOR TO FACILITATE GRADING OPERATIONS. ALL CONSTRUCTION TRAFFIC ENTERING THE PAVED ROAD MUST CROSS THE STABILIZED CONSTRUCTION ENTRANCE. THE STABILIZED CONSTRUCTION ENTRANCE SHALL REMAIN IN PLACE UNTIL THE ROAD BASE ROCK COURSE IS COMPLETED.
9. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE SWEPT AT THE END OF EACH WORKING DAY OR AS NECESSARY.
10. CONTRACTOR SHALL PLACE Q20, Q30 AROUND ALL NEW DRAINAGE STRUCTURE OPENINGS IMMEDIATELY AFTER THE STRUCTURE OPENING IS CONSTRUCTED. THESE BMPs SHALL BE MAINTAINED AND REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED.
11. CONTRACTOR SHALL IMPLEMENT HOUSEKEEPING PRACTICES AS FOLLOWS:

A. SOLID WASTE MANAGEMENT:

- PROVIDE DESIGNATED WASTE COLLECTION AREAS AND CONTAINERS.
- ARRANGE FOR REGULAR REMOVAL AND DISPOSAL. CLEAR SITE OF TRASH INCLUDING ORGANIC DEBRIS, PACKAGING MATERIALS, SCRAP OR SURPLUS BUILDING MATERIALS AND DOMESTIC WASTE DAILY.

B. MATERIAL DELIVERY AND STORAGE:

- PROVIDE A DESIGNATED MATERIAL STORAGE AREA WITH SECONDARY CONTAINMENT SUCH AS BERMING.
- STORE MATERIAL ON PALLETS AND PROVIDE COVERING FOR SOLUBLE MATERIALS. RELOCATE STORAGE AREA INTO BUILDING SHELL WHEN POSSIBLE.
- INSPECT AREA WEEKLY.

C. CONCRETE WASTE:

- PROVIDE A DESIGNATED AREA FOR A TEMPORARY PIT TO BE USED FOR CONCRETE TRUCK WASH-OUT.
- DISPOSE OF HARDENED CONCRETE OFFSITE.
- AT NO TIME SHALL A CONCRETE TRUCK DUMP ITS WASTE AND CLEAN ITS TRUCK INTO THE CITY STORM DRAINS VIA CURB AND GUTTER.
- INSPECT DAILY TO CONTROL RUNOFF, AND WEEKLY FOR REMOVAL OF HARDENED CONCRETE.

D. PAINT AND PAINTING SUPPLIES:

- PROVIDE INSTRUCTION TO EMPLOYEES AND SUBCONTRACTORS REGARDING REDUCTION OF POLLUTANTS INCLUDING MATERIAL STORAGE, USE, AND CLEAN UP.
- INSPECT SITE WEEKLY FOR EVIDENCE OF IMPROPER DISPOSAL.

E. VEHICLE FUELING, MAINTENANCE AND CLEANING:

- PROVIDE A DESIGNATED FUELING AREA WITH SECONDARY CONTAINMENT SUCH AS BERMING.
- DO NOT ALLOW MOBILE FUELING OF EQUIPMENT. PROVIDE EQUIPMENT WITH DRIP PANS.
- RESTRICT ONSITE MAINTENANCE AND CLEANING OF EQUIPMENT TO A MINIMUM. INSPECT AREA WEEKLY.

F. HAZARDOUS WASTE MANAGEMENT:

- PREVENT THE DISCHARGE OF POLLUTANTS FROM HAZARDOUS WASTES TO THE DRAINAGE SYSTEM THROUGH PROPER MATERIAL USE, WASTE DISPOSAL AND TRAINING OF EMPLOYEES.
- HAZARDOUS WASTE PRODUCTS COMMONLY FOUND ON-SITE INCLUDE BUT ARE NOT LIMITED TO PAINTS & SOLVENTS, PETROLEUM PRODUCTS, FERTILIZERS, HERBICIDES & PESTICIDES, SOIL STABILIZATION PRODUCTS, ASPHALT PRODUCTS AND CONCRETE CURING PRODUCTS.

General Notes

1. Sacramento Suburban Water District is a member of U.S.A. one call program. Call for public water system information.
2. All materials used and work performed in water system construction and installation shall comply with approved plans, Special Conditions and the District Standards and Technical Specifications. Any and all deviations from these documents shall require prior written approval by the General Manager or an appointed representative of the District.
3. Ten (10) days prior to pre-construction meeting, the Contractor shall furnish to the District a list of materials proposed to be used in constructing the water system, including manufacturer information and model number.
4. Pre-construction meeting with the District Inspector, Consulting Engineer, County Inspector and Contractor must be held at least two (2) days in advance of construction to inspect materials, schedule inspections, review the approved water system plans and schedule any tie-in connections. Pre-construction meetings will not be scheduled until all District required fees have been paid, all material submittals are approved, and the District receives original guarantee letters, encroachment/maintenance bonds, final signed plans and reproducible plans.
5. No work shall begin until items in General Notes 3. and 4., above, are completed.
6. All water system SHUTDOWNS shall be made ONLY by District personnel. Under no circumstances shall anyone other than the District open or close any valve in the District system. Shutdowns for the purpose of making connections to existing mains must be scheduled at least three (3) days in advance, and are ONLY permitted on Tuesday, Wednesday and Thursday, excluding District Holidays. The hours of the shutdown shall be determined by the District. All connections will be supervised and controlled by the District.
7. The finish grade shall be established, staked and marked at each water service connection and hydrant location. Permanent property corner markers shall be placed by a licensed Civil Engineer or Surveyor.
8. A separate water service connection must be installed for each lot, parcel or premise, and shall be one (1) inch in diameter unless otherwise specified on the approved water plan. No service shall be permitted within 20-feet of a blow off assembly.
9. The completed water system must be disinfected, hydro-tested and flushed.
10. No water service will be provided and no connections to water service will be permitted until the requirements for temporary water approval have been completed.
11. At the time of final acceptance by the District, the completed water system and main extensions with all appurtenances, apparatus, fittings and equipment shall become and forever remain the property of the District.
12. All existing water services not required for this project shall be abandoned according to Technical Specifications 2-2.19 of these Specifications. The exact method shall be determined by the District Inspector and shall be no less than the following:

    A. Removing section of pipe and replacing with a new section.
    B. Removal of the weld-on coupling, corporation stop, saddle and install a full-circle 20-inch wide, stainless steel repair band.

13. All backflow prevention devices shall be TESTED by certified County approved testers prior to FINAL ACCEPTANCE. Copies of satisfactory test results shall be furnished to the District prior to FINAL ACCEPTANCE of system at no cost to the District. Water service shall not be provided until District receives the satisfactory test results.
14. Upgrade of existing facilities shall include but not limited to bringing facility to current standards and/or replacement as required or directed by the District.
15. A separate sampling station(s) shall be installed as necessary to meet State Water Resources Control Board Division of Drinking Water requirements for coliform testing.
16. All above ground appurtenances (ARV's, Fire Hydrants, Sample Stations, etc.) shall have 4 Guard Posts installed per District Standard Detail No. 7 unless directed by District.

SACRAMENTO SUBURBAN WATER DISTRICT
PHONE (916) 972-7171
3701 MARCONI AVENUE
SUITE 100
SACRAMENTO, CA
95821-5303

STANDARD DETAIL

GENERAL NOTES

DATE: AUGUST 2018 | STD. DET. NO. 1

EARTHWORK QUANTITIES

CUT: ___ CUBIC YARDS
FILL: ___ CUBIC YARDS
NET: ___ CUBIC YARDS

EARTHWORK NOTES

1. IT IS THE GRADING CONTRACTOR'S RESPONSIBILITY TO REVIEW THE GRADING PLANS AND SOILS REPORT THOROUGHLY PRIOR TO SITE MOBILIZATION. IT IS ALSO THE GRADING CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CIVIL AND SOILS ENGINEERS IF ONSITE DISCREPANCIES ARE OBSERVED THAT WOULD AFFECT THE EARTHWORK QUANTITIES.
2. THE EXISTING TOPOGRAPHY AS DELINEATED ON THESE DRAWINGS SHALL BE UTILIZED AS THE BASIS FOR ALL EARTHWORK COMPUTATIONS. SAID TOPOGRAPHY SHALL BE PRESUMED TO BE ACCEPTABLE TO ALL INTERESTED PARTIES UNLESS A DEVIATION IS FOUND PRIOR TO THE START OF GRADING IN ANY SPECIFIC AREAS. ANY DEVIATION SO DETERMINED SHALL BE PROMPTLY TRANSMITTED TO ALL INTERESTED PARTIES.
3. THE CONTRACTOR IS REQUIRED TO ESTIMATE THE QUANTITIES OF GRADING WORK TO BE DONE AND INCLUDE ALL COSTS THEREFROM IN HIS BID, AS NO ADDITIONAL ALLOWANCE WILL BE MADE WITHOUT PRIOR CONSENT FROM THE OWNER.
4. OVER-EXCAVATION AND/OR EXCESS BACKFILLING OR DUPLICATION OF GRADING ACTIVITIES IS NOT A BASIS FOR ADDITIONAL COMPENSATION. THIS ALSO APPLIES WHERE MATERIAL IS TO BE REMOVED AND REPLACED TO REDUCE MOISTURE CONTENT.
5. OFF-SITE DISPOSAL OF EXCAVATION MATERIAL IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE INCLUDED IN HIS BID. THE CONTRACTOR SHALL HOLD THE OWNER AND ENGINEER HARMLESS AS A RESULT OF ANY CLAIMS ARISING FROM ACTIONS ENROUTE OR AWAY FROM THE SITE.
6. EARTH VOLUMES SHOWN HEREON ARE ESTIMATES BASED UPON THE GEOTECHNICAL ANALYSIS PERFORMED BY THE NAMED SOILS ENGINEER AND TOPOGRAPHIC SURVEY OF THE EXISTING GROUND SURFACE AT THE TIME OF PLAN PREPARATION. EARTHWORK VOLUMES ARE COMPUTED BY METHODS COMMONLY USED IN STANDARD ENGINEERING PRACTICE, AND ARE INTENDED FOR USE IN ESTABLISHING GOVERNING AGENCY FEES. ACTUAL FIELD CONDITIONS MAY VARY FROM OBSERVED OR MEASURED CONDITIONS AT THE TIME OF PLAN PREPARATION. EARTHWORK QUANTITIES MAY VARY AS A RESULT.
7. THE QUANTITIES FOR THESE PLANS ARE BASED UPON ASSUMPTION OF 0% BULKING FACTOR OF CUT. ACTUAL BULKING MAY VARY.

811 Know what's below. Call before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
GENERAL NOTES

DESIGN BY: Stantec
DATE 05.01.2023
SCALE 1" = 30'-0"
P. N. L19-3000-02
REVISIONS

REGISTERED PROFESSIONAL ENGINEER JOSEPH M. PRELIMINARY NOT FOR CONSTRUCTION PE C77992 CIVIL STATE OF CALIFORNIA

SHEET NO.
C-01 of XX

DEMOLITION NOTES

1. CONTRACTOR SHALL REVIEW AND UNDERSTAND SITE CONDITIONS PRIOR TO BID.
2. ALL EXISTING AMENITIES SHOWN TO REMAIN SUCH AS CURB, DRAINS, UTILITIES, ETC. SHALL BE REPLACED BY THE CONTRACTOR IF DAMAGED DURING CONSTRUCTION. AMENITIES SHALL BE REPLACED IN KIND OR BETTER THAN CURRENT CONDITION.
3. ALL ITEMS TO BE DEMOLISHED SHALL BE LEGALLY DISPOSED OF OFF-SITE AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL WASTE MATERIAL OFF-SITE.
4. ALL SITE VEGETATION, TRASH AND DEBRIS IN PROJECT AREAS IMPACTED BY NEW CONSTRUCTION SHALL BE REMOVED AND PROPERLY DISPOSED OF IN STATE APPROVED WASTE DISPOSAL FACILITIES.
5. CONTRACTOR SHALL CONTACT THE OWNER'S REPRESENTATIVE IMMEDIATELY IN WRITING IF ANY DISCREPANCIES BETWEEN PLANS AND FIELD CONDITIONS ARE ENCOUNTERED.
6. CONTRACTOR SHALL REMOVE ALL IRRIGATION HEADS AND PROVIDE A PERMANENT CAP BELOW GRADE. PERMANENT CAPS SHALL BE PROVIDED ON ALL ABANDONED LINES, TYPICAL TO PREVENT VECTOR INTRUSION INTO BUILDING.
7. CONTRACTOR SHALL CUT AND PERMANENTLY CAP ALL KNOWN AND/OR LOCATABLE IRRIGATION CONNECTIONS TO THE BUILDING PLUMBING SYSTEM. NEW CONNECTIONS AND EQUIPMENT SHALL BE PROVIDED PER IRRIGATION AND PLUMBING DRAWINGS IN THIS DRAWING SET.
8. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ADEQUATE IRRIGATION AND MAINTENANCE OF EXISTING AND PROPOSED PLANT MATERIALS AT ALL TIMES UNTIL FINAL ACCEPTANCE.

TREE PROTECTION NOTES

1. ALL TREE ROOTS REQUIRING PRUNING SHALL BE CUT CLEAN AND THE TREE AFFECTED MAY REQUIRE SUPPLEMENTAL IRRIGATION, FERTILIZATION, AND PRUNING, AS A RESULT OF THE ROOT CUTTING.
2. THE CONTRACTORS SHALL BE HELD LIABLE FOR ANY DAMAGES TO EXISTING TREES, I.E. TRUNK WOUNDS, BROKEN LIMBS, POURING OF ANY DELETERIOUS MATERIALS, OR CONCRETE WASHOUT UNDER THE DRIP LINE OF THE TREES. DAMAGES WILL BE ASSESSED USING THE "GUIDE TO PLANT APPRAISAL" 9TH EDITION, PUBLISHED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE, AN APPRAISAL REPORT SHALL BE SUBMITTED FOR REVIEW BY THE CITY ARBORIST.
3. SUPPLEMENTAL IRRIGATION WILL BE REQUIRED FOR TREES ON AN ADJACENT TO THE PROJECT SITE WHERE THE IRRIGATION HAS BEEN TURNED OFF OR MODIFIED BECAUSE OF THE CONSTRUCTION ACTIVITIES.
4. TREES TO BE PRESERVED AND PROTECTED SHALL HAVE A TEMPORARY CHAIN LINK CONSTRUCTION FENCE PLACED AROUND THE DRIPLINE OF THE TREES.
5. ALL EXISTING TREES SHALL BE PROTECTED FROM DAMAGE OR INJURY. NO PARKING OR STACKING OF CONSTRUCTION MATERIALS IS ALLOWED WITHIN THE DRIP LINE OF EXISTING TREES.

DEMOLITION & EXISTING CONDITIONS LEGEND

	DEMOLITION	
CODE	DESCRIPTION	QTY
D-101	EXISTING TREE TO BE REMOVED. SEE TREE REMOVAL LEGEND.	21
D-102	EXISTING BALLFIELD LIGHT POST TO BE REMOVED	22
D-103	EXISTING BALLFIELD FENCING TO BE REMOVED	1,377 LF
D-104	EXISTING BLEACHERS TO BE REMOVED	2
D-105	EXISTING DRINKING FOUNTAIN TO BE REMOVED	1
D-106	EXISTING SCOREBOARD TO BE REMOVED	1
D-107	EXISTING FOUL BALL POSTS TO BE REMOVED	2
D-108	EXISTING GATE TO BE REMOVED	1
D-109	EXISTING CHAINLINK FENCE TO BE REMOVED TO NEAREST POST	–
D-110	EXISTING POST AND CABLE FENCE TO BE REMOVED	–
D-111	EXISTING PARK SIGN TO BE REMOVED	–
D-112	EXISTING BENCHES TO BE REPLACED	2
	EXISTING CONDITIONS	
CODE	DESCRIPTION	QTY
EX-201	EXISTING WELL SITE TO REMAIN	1
EX-202	EXISTING TREES TO REMAIN, INSTALL TREE PROTECTION FENCING, TYP. REFER TO TREE PROTECTION NOTES	2,065 LF
EX-203	EXISTING PLAY EQUIPMENT AND SURFACING TO REMAIN. PROTECT IN PLACE	–
EX-204	EXISTING LIGHT POLE TO REMAIN, PROTECT IN PLACE	–
EX-205	EXISTING STRUCTURE TO REMAIN	–
EX-206	EXISTING DECOMPOSED GRANITE TRAIL TO REMAIN, PROTECT IN PLACE	–
EX-207	EXISTING PICNIC TABLE AND CONCRETE PAD TO REMAIN, PROTECT IN PLACE	–
EX-208	EXISTING GATE TO REMAIN	–
EX-209	EXISTING CHAIN LINK FENCE TO REMAIN, PROTECT IN PLACE	–
EX-210	EXISTING POST AND CABLE FENCE TO REMAIN	–
EX-211	EXISTING ASPHALT TO REMAIN, PROTECT IN PLACE	–
EX-212	EXISTING TELEPHONE POLE TO REMAIN	–
EX-213	EXISTING SIGN TO REMAIN	–
EX-214	EXISTING BOULDER TO BE RELOCATED	–
	DEMOLITION	
SYMBOL	DESCRIPTION	QTY
	EXISTING AREA TO BE CLEARED AND GRUBBED FOR PLANTING.	143,187 SF
	EXISTING ASPHALT AND AGGREGATE BASE TO BE REMOVED	35,882 SF
	EXISTING CONCRETE TO BE REMOVED AND DISPOSED	9,830 SF
	EXISTING AC TOP TO BE REMOVED, BASE ROCK TO REMAIN AND REUSED IN NEW AC PARKING	35,388 SF
	EXISTING DECOMPOSED GRANITE PATH TO BE REMOVED	179 SF
	EXISTING TURF AREA TO BE CLEARED AND GRUBBED	138,459 SF

TREE REMOVAL LEGEND

	DEMOLITION		
CODE	SCIENTIFIC NAME/COMMON NAME	CALIPER	TREE IMPACT MATRIX ID #*
1	FRAXINUS V. 'MODESTO'/MODESTO ASH	22	118
2	FRAXINUS V. 'MODESTO'/MODESTO ASH	22	119
3	FRAXINUS V. 'MODESTO'/MODESTO ASH	30	120
4	AILANTHUS ALTISSIMA/TREE OF HEAVEN	7	158
5	AILANTHUS ALTISSIMA/TREE OF HEAVEN	9	157
6	PYRUS CALLERYANA/CALLERY PEAR	7	154
7	PYRUS CALLERYANA/CALLERY PEAR	26	147
8	PYRUS CALLERYANA/CALLERY PEAR	12	151
9	PYRUS CALLERYANA/CALLERY PEAR	10	152
10	PLATANUS HISPANICA/LONDON PLANE TREE	16	98
11	PLATANUS HISPANICA/LONDON PLANE TREE	22	97
12	PLATANUS HISPANICA/LONDON PLANE TREE	16	96
13	PLATANUS HISPANICA/LONDON PLANE TREE	18	103
14	PLATANUS HISPANICA/LONDON PLANE TREE	16	95
15	PLATANUS HISPANICA/LONDON PLANE TREE	15	104
16	PLATANUS HISPANICA/LONDON PLANE TREE	15	94
17	ROBINIA X AMBIGUA 'IDAHOENSIS'/IDAHO LOCUST	6	89
18	ROBINIA X AMBIGUA 'IDAHOENSIS'/IDAHO LOCUST	7	88
19	ROBINIA X AMBIGUA 'IDAHOENSIS'/IDAHO LOCUST	13	87
20	ROBINIA X AMBIGUA 'IDAHOENSIS'/IDAHO LOCUST	4	86
21	ROBINIA X AMBIGUA 'IDAHOENSIS'/IDAHO LOCUST	14	85
TOTAL CALIPER INCH TO REPLACE:		307	

*TREE IMPACT MATRIX TO TAKE PRIORITY IN NUMBER REFERENCES. TREE IMPACT MAP NUMBERING IS INCORRECT.



MATCHLINE SEE SHEET LD102

UTILITY NOTE:
EXISTING UTILITIES SHOWN HEREIN ARE APPROXIMATE ONLY AND MAY NOT SHOW ALL EXISTING FACILITIES WITHIN THE PROJECT AREA. CONTRACTOR MUST FIELD VERIFY AND POTHOLE EXISTING UTILITIES WITHIN THE PROJECT AREA PRIOR TO BEGINNING CONSTRUCTION. ALL EXISTING UTILITIES MUST BE PROTECTED IN PLACE DURING CONSTRUCTION.

SEE DRAWING CV001 FOR GENERAL NOTES

N

0 30' 45' 60'
SCALE: 1"=30'-0"

811 Know what's below. Call before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK (LI9300002)
EXISTING CONDITIONS & DEMOLITION PLAN

DESIGN BY: Stantec
DATE 05.01.2023
SCALE 1" = 30'-0"
P. N. LI9-3000-02
REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
LD101 of XX



DEMOLITION & EXISTING CONDITIONS LEGEND		
	DEMOLITION	
CODE	DESCRIPTION	QTY
D-101	EXISTING TREE TO BE REMOVED. SEE TREE REMOVAL LEGEND.	21
D-102	EXISTING BALLFIELD LIGHT POST TO BE REMOVED	22
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D-109	EXISTING CHAINLINK FENCE TO BE REMOVED TO NEAREST POST	–
D-110	EXISTING POST AND CABLE FENCE TO BE REMOVED	–
D-111	EXISTING PARK SIGN TO BE REMOVED	–
D-112	EXISTING BENCHES TO BE REPLACED	2
	EXISTING CONDITIONS	
CODE	DESCRIPTION	QTY
EX-201	EXISTING WELL SITE TO REMAIN	1
EX-202	EXISTING TREES TO REMAIN, INSTALL TREE PROTECTION FENCING, TYP. REFER TO TREE PROTECTION NOTES	2,065 LF
EX-203	EXISTING PLAY EQUIPMENT AND SURFACING TO REMAIN. PROTECT IN PLACE	–
EX-204	EXISTING LIGHT POLE TO REMAIN, PROTECT IN PLACE	–
EX-205	EXISTING STRUCTURE TO REMAIN	–
EX-206	EXISTING DECOMPOSED GRANITE TRAIL TO REMAIN, PROTECT IN PLACE	–
EX-207	EXISTING PICNIC TABLE AND CONCRETE PAD TO REMAIN, PROTECT IN PLACE	–
EX-208	EXISTING GATE TO REMAIN	–
EX-209	EXISTING CHAIN LINK FENCE TO REMAIN, PROTECT IN PLACE	–
EX-210	EXISTING POST AND CABLE FENCE TO REMAIN	–
EX-211	EXISTING ASPHALT TO REMAIN, PROTECT IN PLACE	–
EX-212	EXISTING TELEPHONE POLE TO REMAIN	–
EX-213	EXISTING SIGN TO REMAIN	–
EX-214	EXISTING BOULDER TO BE RELOCATED	–
	DEMOLITION	
SYMBOL	DESCRIPTION	QTY
	EXISTING AREA TO BE CLEARED AND GRUBBED FOR PLANTING.	143,187 SF
	EXISTING ASPHALT AND AGGREGATE BASE TO BE REMOVED	35,882 SF
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	EXISTING DECOMPOSED GRANITE PATH TO BE REMOVED	179 SF
	EXISTING TURF AREA TO BE CLEARED AND GRUBBED	138,459 SF

SEE DRAWING CV001 FOR GENERAL NOTES

SEE DRAWING LD101 FOR DEMOLITION LEGEND AND NOTES

UTILITY NOTE:
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0 30' 45' 60'
SCALE: 1"=30'-0"

Know what's below. Call before you dig.

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PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO
Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK

EXISTING CONDITIONS & DEMOLITION PLAN

DESIGN BY: Stantec

DATE 05.01.2023

SCALE 1" = 30'-0"

P. N. LI9-3000-02

REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
LDI02 of XX

GRADING CONSTRUCTION NOTES

1. CONSTRUCT ASPHALT PARKING LOT PER LANDSCAPE DETAILS AND GEOTECHNICAL REPORT RECOMMENDATIONS.
2. CONSTRUCT PCC CURB PER LANSCAPE DETAILS.
3. CONSTRUCT PCC SIDEWALK PER LANSCAPE DETAILS.
4. CONSTRUCT LANDSCAPE PER LANDSCAPE DETAILS.
5. CONSTRUCT PERMEABLE PAVERS PER LANDSCAPE DETAILS AND GEOTECHNICAL REPORT RECOMMENDATIONS.
6. CONSTRUCT BENCH AREA AND AMENITIES PER LANDSCAPE DETAILS.
7. CONSTRUCT PICKLEBALL COURT(S) PER LANDSCAPE DETAILS AND GEOTECHNICAL REPORT RECOMMENDATIONS.
8. CONSTRUCT BASKETBALL COURT PER LANDSCAPE DETAILS AND GEOTECHNICAL REPORT RECOMMENDATIONS.
9. CONSTRUCT GROUNDWATER RECHARGE FEATURE PER LANDSCAPE DETAILS.
10. CONSTRUCT BASEBALL FIELD PER LANDSCAPE DETAILS AND GEOTECHNICAL REPORT RECOMMENDATIONS.

LEGEND

XXXX	DESIGN ELEVATION
(XXXX)	EXISTING ELEVATION
[XXXXINV]	ELEVATION DERIVED FROM AS-BUILT OR RECORD PLANS. CONTRACTOR SHALL FIELD VERIFY ALL ELEVATIONS PRIOR TO THE START OF CONSTRUCTION AND NOTIFY THE ENGINEER OF RECORD OF ANY DISCREPANCY PRIOR TO THE COMMENCEMENT OF WORK.
XXX	DESIGN SLOPE PERCENT AND DIRECTION
(31)	EXISTING CONTOUR
31	PROPOSED CONTOUR
	PROPERTY LINE
	EASEMENT LINE
	SAWCUT LINE
	DRAINAGE SWALE

SEE LANDSCAPE SHEETS FOR HARDSCAPE AND LANDSCAPE INFORMATION

BRIDGE RD.

EXISTING PLAYGROUND

EXISTING PARKING

EX. ROADWAY

AUBURN BLVD.

GRAPHIC SCALE
30 0 30 90
SCALE 1"=30'

811 Know what's below. Call before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

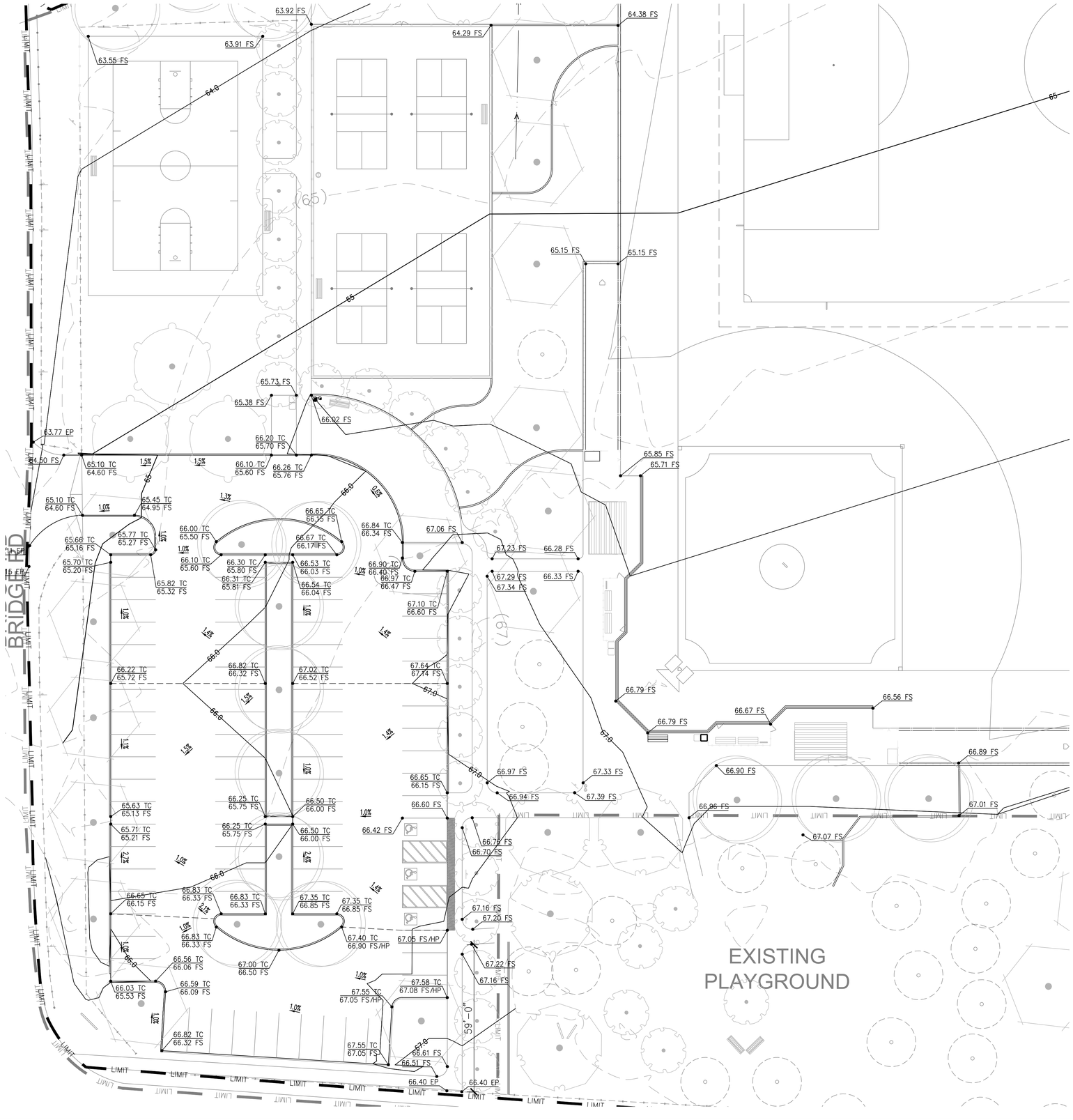
RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (L19300002)

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
OVERALL GRADING PLAN

DESIGN BY: Stantec
DATE 05.01.2023
SCALE 1" = 30'-0"
P. N. L19-3000-02
REVISIONS

REGISTERED PROFESSIONAL ENGINEER JOSEPH M. SMITH PRELIMINARY NOT FOR CONSTRUCTION PE C77992 CIVIL STATE OF CALIFORNIA

SHEET NO.
C-02 of XX



GRADING CONSTRUCTION NOTES

1. CONSTRUCT ASPHALT PARKING LOT PER LANDSCAPE DETAILS AND GEOTECHNICAL REPORT RECOMMENDATIONS.
2. CONSTRUCT PCC CURB PER LANSCAPE DETAILS.
3. CONSTRUCT PCC SIDEWALK PER LANSCAPE DETAILS.
4. CONSTRUCT LANDSCAPE PER LANDSCAPE DETAILS.
5. CONSTRUCT PERMEABLE PAVERS PER LANDSCAPE DETAILS AND GEOTECHNICAL REPORT RECOMMENDATIONS.
6. CONSTRUCT BENCH AREA AND AMENITIES PER LANDSCAPE DETAILS.
7. CONSTRUCT PICKLEBALL COURT(S) PER LANDSCAPE DETAILS AND GEOTECHNICAL REPORT RECOMMENDATIONS.
8. CONSTRUCT BASKETBALL COURT PER LANDSCAPE DETAILS AND GEOTECHNICAL REPORT RECOMMENDATIONS.
9. CONSTRUCT GROUNDWATER RECHARGE FEATURE PER LANDSCAPE DETAILS.
10. CONSTRUCT BASEBALL FIELD PER LANDSCAPE DETAILS AND GEOTECHNICAL REPORT RECOMMENDATIONS.

LEGEND

XXXX	DESIGN ELEVATION
(XXXX)	EXISTING ELEVATION
[XXXXINV]	ELEVATION DERIVED FROM AS-BUILT OR RECORD PLANS. CONTRACTOR SHALL FIELD VERIFY ALL ELEVATIONS PRIOR TO THE START OF CONSTRUCTION AND NOTIFY THE ENGINEER OF RECORD OF ANY DISCREPANCY PRIOR TO THE COMMENCEMENT OF WORK.
XXX	DESIGN SLOPE PERCENT AND DIRECTION
(31)	EXISTING CONTOUR
31	PROPOSED CONTOUR
	PROPERTY LINE
	EASEMENT LINE
	SAWCUT LINE
	DRAINAGE SWALE

GRAPHIC SCALE

20 0 20 60

SCALE 1"=20'

Know what's below. Call before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK (LI9300002)

PRECISE GRADING PLAN

DESIGN BY: Stantec

DATE 05.01.2023

SCALE 1" = 30'-0"

P. N. LI9-3000-02

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
JOSEPH M. SALVATORE
PRELIMINARY PLANS
NOT FOR CONSTRUCTION
No. C77992
CIVIL
STATE OF CALIFORNIA

SHEET NO.
C-03 of XX

GRADING CONSTRUCTION NOTES

1. CONSTRUCT ASPHALT PARKING LOT PER LANDSCAPE DETAILS AND GEOTECHNICAL REPORT RECOMMENDATIONS.
2. CONSTRUCT PCC CURB PER LANSCAPE DETAILS.
3. CONSTRUCT PCC SIDEWALK PER LANSCAPE DETAILS.
4. CONSTRUCT LANDSCAPE PER LANDSCAPE DETAILS.
5. CONSTRUCT PERMEABLE PAVERS PER LANDSCAPE DETAILS AND GEOTECHNICAL REPORT RECOMMENDATIONS.
6. CONSTRUCT BENCH AREA AND AMENITIES PER LANDSCAPE DETAILS.
7. CONSTRUCT PICKLEBALL COURT(S) PER LANDSCAPE DETAILS AND GEOTECHNICAL REPORT RECOMMENDATIONS.
8. CONSTRUCT BASKETBALL COURT PER LANDSCAPE DETAILS AND GEOTECHNICAL REPORT RECOMMENDATIONS.
9. CONSTRUCT GROUNDWATER RECHARGE FEATURE PER LANDSCAPE DETAILS.
10. CONSTRUCT BASEBALL FIELD PER LANDSCAPE DETAILS AND GEOTECHNICAL REPORT RECOMMENDATIONS.

LEGEND

XXXX	DESIGN ELEVATION
(XXXX)	EXISTING ELEVATION
[XXXXINV]	ELEVATION DERIVED FROM AS-BUILT OR RECORD PLANS. CONTRACTOR SHALL FIELD VERIFY ALL ELEVATIONS PRIOR TO THE START OF CONSTRUCTION AND NOTIFY THE ENGINEER OF RECORD OF ANY DISCREPANCY PRIOR TO THE COMMENCEMENT OF WORK.
XXX	DESIGN SLOPE PERCENT AND DIRECTION
(31)	EXISTING CONTOUR
31	PROPOSED CONTOUR
	PROPERTY LINE
	EASEMENT LINE
	SAWCUT LINE
	DRAINAGE SWALE

(65)
65
(66)
66.0
(67)
67.0
66.56 FS
66.67 FS
6.79 FS
66.77 FS
66.89 FS
66.90 FS
66.90 FS
66.96 FS
67.01 FS
67.07 FS
LIMIT

GRAPHIC SCALE
20 0 20 60
SCALE 1"=20'

Know what's below. Call before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
PRECISE GRADING PLAN

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (L19300002)

DESIGN BY: Stantec
DATE 05.01.2023
SCALE 1" = 30'-0"
P. N. L19-3000-02
REVISIONS

REGISTERED PROFESSIONAL ENGINEER
JOSEPH M. SMITH
PRELIMINARY FOR CONSTRUCTION
No. 077992
CIVIL
STATE OF CALIFORNIA

SHEET NO.
C-04 of XX

WATER CONSTRUCTION NOTES

(50) CONSTRUCT 1" DOMESTIC WATER LINE (SCH 40 PVC). TRENCHING AND BEDDING PER SACRAMENTO SUBURBAN WATER DISTRICT STD. DTL. 3, SEE SHEET 7.

(51) CUT TEE INTO EXISTING WATER LINE BETWEEN EXISTING METER AND IRRIGATION BACKFLOW. CONSTRUCT 1" BACKFLOW PREVENTER PER SACRAMENTO COUNTY STANDARD DRAWING 8-8A, SEE SHEET 7.

LEGEND

XXXX	DESIGN ELEVATION
(XXXX)	EXISTING ELEVATION
[XXXXINV]	ELEVATION DERIVED FROM AS-BUILT OR RECORD PLANS. CONTRACTOR SHALL FIELD VERIFY ALL ELEVATIONS PRIOR TO THE START OF CONSTRUCTION AND NOTIFY THE ENGINEER OF RECORD OF ANY DISCREPANCY PRIOR TO THE COMMENCEMENT OF WORK.
XXX	DESIGN SLOPE PERCENT AND DIRECTION
(31)	EXISTING CONTOUR
31	PROPOSED CONTOUR
	PROPERTY LINE
	EASEMENT LINE
	SAWCUT LINE
	DRAINAGE SWALE

SEE LANDSCAPE SHEETS FOR HARDSCAPE AND LANDSCAPE INFORMATION

PROPOSED DRINKING FOUNTAIN

PROPOSED DRINKING FOUNTAIN

EXISTING PLAYGROUND

EXISTING PARKING

BRIDGE RD

AUBURN BLVD.

EX. ROADWAY

GRAPHIC SCALE

30 0 30 90

SCALE 1"=30'

Know what's below. Call before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
WET UTILITY PLAN

DESIGN BY: Stantec

DATE 05.01.2023

SCALE 1" = 30'-0"

P. N. LI9-3000-02

REVISIONS

REGISTERED PROFESSIONAL ENGINEER JOSEPH M. SMITH PRELIMINARY NOT FOR CONSTRUCTION RCE C77992 CIVIL STATE OF CALIFORNIA

SHEET NO.
C-05 of XX

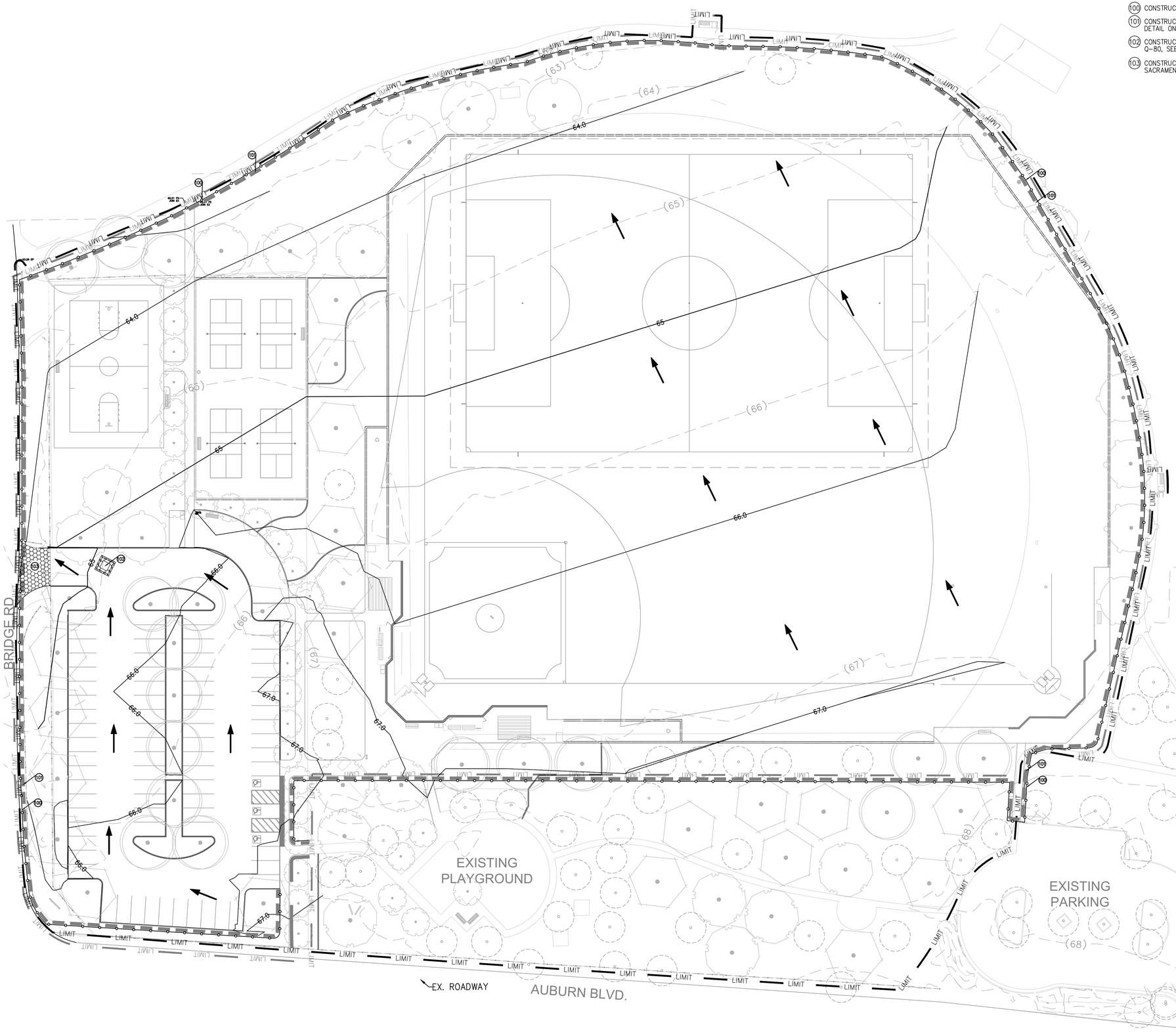
EROSION CONTROL NOTES

(100) CONSTRUCT CONSTRUCTION FENCE WITH GREEN SCREEN.

(101) CONSTRUCT FIBER ROLLS PER CITY OF SACRAMENTO STD. Q-40, SEE DETAIL ON SHEET C-07.

(102) CONSTRUCT CONCRETE WASHOUT PER CITY OF SACRAMENTO STD. Q-80, SEE DETAIL ON SHEET C-07.

(103) CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE PER CITY OF SACRAMENTO STD. Q-10, SEE DETAIL ON SHEET C-07.



LEGEND

XXXX	DESIGN ELEVATION
(XXXX)	EXISTING ELEVATION
(XXXX)ENV3	ELEVATION DERIVED FROM AS-BUILT OR RECORD PLANS. CONTRACTOR SHALL FIELD VERIFY ALL ELEVATIONS PRIOR TO THE START OF CONSTRUCTION AND NOTIFY THE ENGINEER OF RECORD OF ANY DISCREPANCY PRIOR TO COMMENCING WORK.
XXX	DESIGN SPOT ELEVATION AND DIRECTION
	EXISTING CONTOUR
31	PROPOSED CONTOUR
	PROPERTY LINE
	EASEMENT LINE
	SAWCUT LINE
	DRAINAGE SWALE
	PROPOSED FIBER ROLL
	PROPOSED CONSTRUCTION FENCE
	FLOW DIRECTION

GRAPHIC SCALE
30 0 30 90
30

Know what's below. Call before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

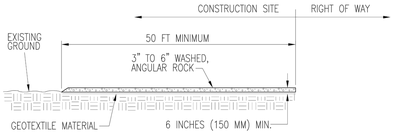
RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (L19300002)

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
EROSION CONTROL

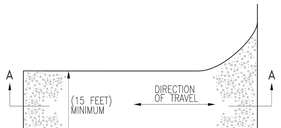
DESIGN BY: Stantec
DATE 05.01.2023
SCALE 1" = 30'-0"
P. N. L19-3000-02
REVISIONS

REGISTERED PROFESSIONAL ENGINEER
JOSEPH M. SMITH
PRELIMINARY NOT FOR CONSTRUCTION
No. 077992
CIVIL
STATE OF CALIFORNIA

SHEET NO.
C-06 of XX



SECTION A–A



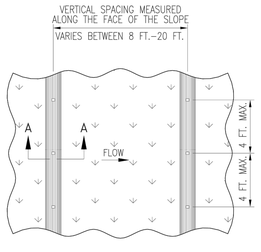
PLAN VIEW

NOTES:
1. STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED OF 3" TO 6" WASHED, ANGULAR ROCK. MATERIAL SHALL BE PLACED TO A MINIMUM THICKNESS OF 6 INCHES.
2. LENGTH OF ENTRANCE SHALL BE A MINIMUM OF 50 FEET. WIDTH SHALL BE A MIN. OF 15 FT OR GREATER IF NECESSARY TO COVER ALL VEHICULAR INGRESS AND EGRESS. PROVIDE AMPLE TURNING RADII.
3. THE ENTRANCE SHALL BE KEPT IN GOOD CONDITION BY OCCASIONAL TOP DRESSING WITH MATERIAL AS SPECIFIED IN NOTE 1.
4. ACCESSES SHALL BE INSPECTED WEEKLY DURING PERIODS OF HEAVY USAGE, MONTHLY DURING NORMAL USAGE, AND AFTER EACH RAINFALL, WITH MAINTENANCE PROVIDED AS NECESSARY. PERIODIC TOP DRESSING SHALL BE DONE AS NEEDED.

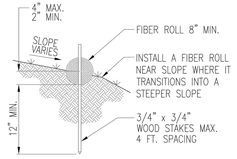
REV.	DATE	DESCRIPTION

CITY OF SACRAMENTO DEPARTMENT OF UTILITIES	STABILIZED CONSTRUCTION ENTRANCE	APPR'D BY:	NO SCALE
		DATE: 3/12/20	DWG. NO. O-10

R:\Utilities_New_Std_Details\Wtr_Quality_Details\Q-10



TYPICAL FIBER ROLL INSTALLATION



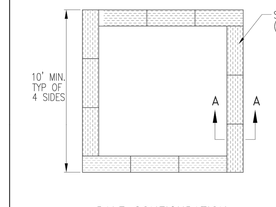
SECTION A – A

NOTES:
1.– INSTALL FIBER ROLLS IN A ROW ALONG A LEVEL CONTOUR.
2.– AT ENDS OF A ROW TURN THE LAST TWO FEET UP SLOPE SLIGHTLY.
3.– FIBER ROLLS SHALL BE BUTTED TIGHTLY AT THE JOINTS.
4.– DO NOT OVERLAP JOINTS.
5.– FIBER ROLLS SHALL BE INSPECTED WEEKLY AND AFTER STORMS, AND REPAINTED OR REPLACED AS NEEDED.

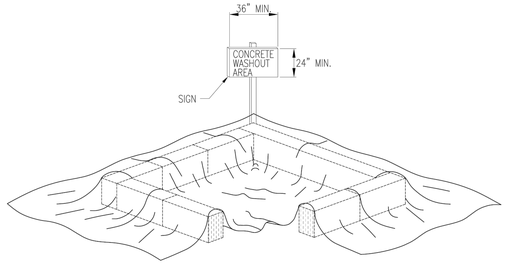
REV.	DATE	DESCRIPTION

CITY OF SACRAMENTO DEPARTMENT OF UTILITIES	FIBER ROLLS	APPR'D BY:	NO SCALE
		DATE: 3/12/20	DWG. NO. O-40

R:\Utilities_New_Std_Details\Wtr_Quality_Details\Q-40



BALE CONFIGURATION SECTION A–A

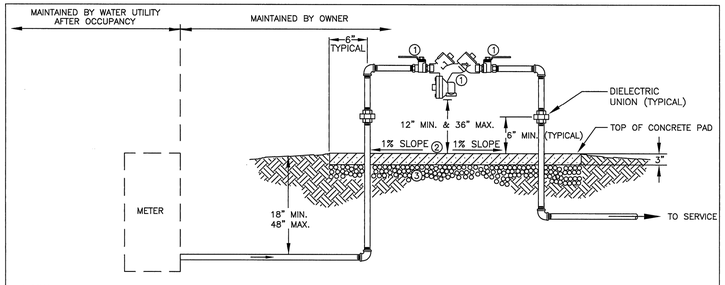


THIS SECTION REMOVED FOR GRAPHICAL REPRESENTATION ONLY. STRAW BALE PERIMETER SHALL BE CONTINUOUS.

NOTES:
1.– FACE SIGN TOWARD NEAREST STREET OR ACCESS POINT
2.– CONCRETE WASHOUT SHALL BE LOCATED BEHIND CURB AND 50 FT. MINIMUM FROM DRAINAGE INLETS OR WATERCOURSES

REV.	DATE	DESCRIPTION

CITY OF SACRAMENTO DEPARTMENT OF UTILITIES	CONCRETE WASHOUT	APPR'D BY:	NO SCALE
		DATE: 3/12/20	DWG. NO. O-80

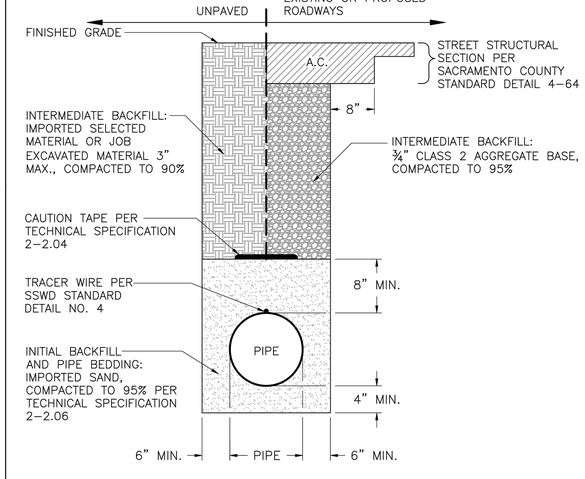


NOTES:
A. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY SHALL BE APPROVED BY THE STATE OF CALIFORNIA DIVISION OF DRINKING WATER AND BE ON THE MOST RECENT LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES. (www.emd.saccounty.net/EC/Pages/CrossConnection.aspx) (www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Publications.shtml) (www.usc.edu/dept/fccchr/list.html)
B. ALL PIPE SHALL BE GALVANIZED SCHEDULE 40 STEEL, TYPE K COPPER, OR BRASS. BURIED METAL SHALL BE ENCASED WITH 8 MIL POLYETHYLENE WRAP OR 10 MIL POLYETHYLENE TAPE SO THAT NO SOIL IS IN CONTACT WITH METAL.
C. GALVANIZED PIPE SHALL HAVE ANODE BAG PER COUNTY CODE SECTION 16.24.100. INSTALL DIELECTRIC COUPLING OR FITTING BETWEEN DISSIMILAR METALS.

① REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY, WITH 2 BRONZE RESILIENT SEATED BALL VALVES MINIMUM WORKING PRESSURE 175 PSI.
② 3" SLAB – 18" WIDE WITH VARYING LENGTH
③ 1/2" OR 3/4" CRUSHED ROCK, 4" MINIMUM THICKNESS, MECHANICALLY COMPACTED TO 95% COMPACTION.

DIRECTOR, DEPARTMENT OF WATER RESOURCES

SACRAMENTO COUNTY MUNICIPAL SERVICES AGENCY	
REDUCED PRESSURE BACKFLOW PREVENTER 1" TO 2"	
SCALE: NONE DATE: 11/15	8-8A



NOTES:
1. MINIMUM COVER FROM TOP OF PIPE TO FINISHED GRADE SHALL BE PER THE FOLLOWING PIPE DIAMETERS:
   A. 12" & SMALLER = 36"
   B. GREATER THAN 12" = 42"
2. MAXIMUM LENGTH OF OPEN TRENCH SHALL BE 100 FEET.
3. PAVEMENT SAW CUT SHALL BE CLEAN AND STRAIGHT LINES, PARALLEL AND PERPENDICULAR TO EXISTING ROADWAY IMPROVEMENTS.
4. MECHANICAL COMPACTION REQUIRED.

SACRAMENTO SUBURBAN WATER DISTRICT	PHONE (916) 972–7171 3701 MARCONI AVENUE SUITE 100 SACRAMENTO, CA 95821–5303	STANDARD DETAIL
		TRENCH SECTIONS
		DATE: AUGUST 2018 STD. DET. NO. 3

Know what's below. Call before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO
Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
DETAILS

DESIGN BY: Stantec
DATE 05.01.2023
SCALE 1" = 30'-0"
P. N. L19-3000-02
REVISIONS

REGISTERED PROFESSIONAL ENGINEER JOSEPH M. SMITH PRELIMINARY NOT FOR CONSTRUCTION No. 077992 CIVIL STATE OF CALIFORNIA

SHEET NO.
C-07 of XX

RENFREE FIELD RENOVATION (DEL PASO REGIONAL PARK (L19300002)

LAYOUT NOTES

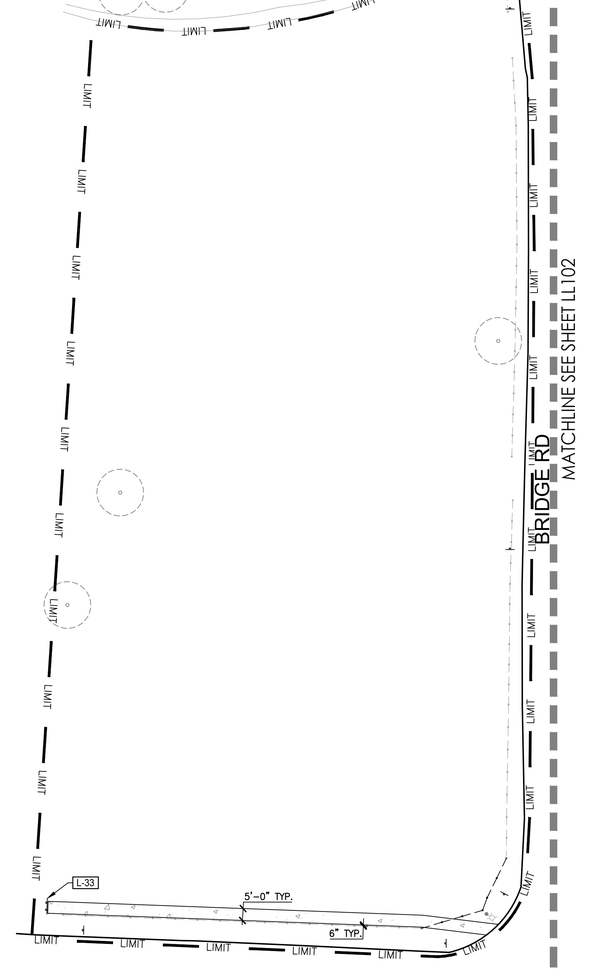
1. WRITTEN DIMENSIONS SHALL TAKE PRECEDENT OVER SCALED DIMENSIONS. ALL FIELD ADJUSTMENTS MUST BE APPROVED BY THE OWNER PRIOR TO INSTALLATION.
2. ALL LOCAL CODES AND ORDINANCES SHALL BE COMPLIED WITH. IF THERE IS A CONFLICT, THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IN WRITING.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION OF ANY UNDERGROUND UTILITIES. DAMAGE CAUSED BY THE CONTRACTOR'S INSTALLATION SHALL BE REPAIRED TO THE SATISFACTION OF THE GOVERNING AGENCY AND/OR OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS OF SUCH REPAIRS. CONTRACTOR SHALL CONTACT 811 UNDERGROUND SERVICE ALERT FOR LOCATION OF ALL UNDERGROUND UTILITIES FORTY EIGHT (48) HOURS BEFORE STARTING EXCAVATION.
4. VERIFY EXISTING CONDITIONS BEFORE BEGINNING WORK. NOTIFY THE OWNER IF THERE ARE SUBSTANTIAL DISCREPANCIES.
5. ALL TRADES SHALL COORDINATE WORK SO PROGRESS OF WORK IS NOT INTERRUPTED AND CAN BE COMPLETED IN A TIMELY MANNER.
6. IMPROVEMENTS SHALL MEET ALL ACCESSIBILITY RULES AND REGULATIONS AS SET FORTH BY THE AMERICAN WITH DISABILITIES ACT (ADA). THE REQUIREMENTS OF ADA WILL BE SUBJECT TO VARIOUS, AND POSSIBLY, CONTRADICTORY INTERPRETATIONS. THE LANDSCAPE ARCHITECT HAS USED THEIR BEST PROFESSIONAL EFFORT TO INTERPRET APPLICABLE ADA REQUIREMENTS AND OTHER FEDERAL, STATE AND LOCAL LAWS, RULES, CODES ORDINANCES AND REGULATIONS AS THEY APPLY TO THIS PROJECT.
7. ALL DIMENSIONS ARE TO EDGE OF CONCRETE FLATWORK, FACE OF CURB, OR CENTER POINT OF RADIUS.
8. SLEEVING SHALL BE INSTALLED PRIOR TO PLACING CONCRETE WORK. REFER TO IRRIGATION PLAN. CONTRACTOR TO STUDY IRRIGATION PLAN TO DETERMINE EXACT LOCATION OF SLEEVING. CONTRACTOR TO BE RESPONSIBLE FOR ALL SLEEVE LOCATIONS.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING, AT NO ADDITIONAL COST TO THE OWNER, ANY EXISTING AREAS TO REMAIN WHICH ARE DISTURBED AS A CONSEQUENCE OF THE CONTRACTOR'S CONSTRUCTION OPERATIONS.
10. ALL MATERIALS AND FINISHES SHALL BE AS PER DRAWINGS, DETAILS AND SPECIFICATIONS. SOME MATERIALS MAY REQUIRE A SEVERAL-WEEK ORDER LEAD TIME. CONTRACTOR IS RESPONSIBLE FOR DETERMINING ANY AND ALL ORDERING LEAD TIMES AND PROVIDING REQUIRED MATERIALS AT THE PROJECT SITE IN A TIMELY MANNER. NO UNAPPROVED SUBSTITUTIONS WILL BE ALLOWED. CONTACT THE OWNER IMMEDIATELY IF A SPECIFIED MATERIAL IS NOT AVAILABLE.

LAYOUT LEGEND

SYMBOL	LAYOUT
AL	ALIGN
CL	CENTERLINE
EQ.	EQUAL SPACING
PA	PLANTER AREA, SEE PLANTING PLAN
PL	PROPERTY LINE
PUE	PUBLIC UTILITY EASEMENT
ROW	RIGHT OF WAY (AT BACK OF WALK)
TYP.	TYPICAL
————	SCORE JOINT, TYP.
- - - - - - - - -	EXPANSION JOINT, TYP.

LAYOUT SCHEDULE

	LAYOUT		
CODE	DESCRIPTION	QTY	DETAIL
L-01	ACCESSIBLE PARKING STALL AND STRIPING	3	8/LL502
L-02	ACCESSIBLE PARKING SIGN	3	7/LL502
L-03	DETECTABLE WARNING STRIP	–	CITY OF SAC STD DTL T-79
L-04	6" CURB AT PARKING LOT	1,290 LF	10/LL502
L-05	6" MOWCURB AT PLANTERS	397 LF	5/LL502
L-06	12" FLUSH CURB AT FENCING	2,046 LF	3/LL503
L-07	6' BACKED BENCH. MODEL #424 – ANGLED BENCH WITH BACK, AS MANUFACTURED BY OUTDOOR CREATIONS OR APPROVED EQUAL. COLOR: MEDIUM GRAY. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.	5	–
L-08	6' BACKLESS BENCH. MODEL #402 – CONCRETE FLAT BENCH, AS MANUFACTURED BY OUTDOOR CREATIONS OR APPROVED EQUAL. COLOR: MEDIUM GRAY. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.	2	–
L-09	TRASH AND RECYCLING RECEPTACLES. MODEL #508 – CONCRETE WASTE RECEPTACLE WITH LOCKABLE LATCH HANDLE, AS MANUFCCTURED BY OUTDOOR CREATIONS OR APPROVED EQUAL. COLOR TO BE: MEDIUM GRAY. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.	6	–
L-10	DRINKING FOUNTAIN WITH JUG FILLER AND SUMP, MODEL 440 SMSS. COLOR: SILVER. AS MANUFACTURED BY MOST DEPENDABLE FOUNTAINS, OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.	1	CITY OF SAC STD DTL L-500
L-11	DRINKING FOUNTAIN WITH DOG BOWL, AND SUMP, MODEL 440 SMSS. COLOR: SILVER. AS MANUFACTURED BY MOST DEPENDABLE FOUNTAINS, OR APPROVED EQUAL. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.	1	CITY OF SAC STD DTL L-500
L-12	BASEBALL BASES. PATTERSON WILLIAMS ATHLETIC MFG., CO. 4-WAY PITCHING RUBBER, MODEL #8510-00.; HOME PLATE WITH ANCHOR, MODEL #8510-00; COMPLETE SET OF 5 BASES, MODEL #8503-00. COMPLETE SET OF 3 GROUND ANCHORS, MODEL #8502-01. AVAILABLE THROUGH NORCAL OUTDOOR SUPPLY CO., CONTACT JEFF WHITMAN (925) 984-2075	–	–
L-13	BACKSTOP 30' HIGH CHAIN LINK FENCE	–	1/LL503
L-14	POLY-CAP PROTECTIVE GUARD (ATTACH TO TOP OF 4' OUTFIELD FENCE) – PATTERSON-WILLIAMS ATHLETIC MFG. CO., POLY-CAP PROTECTIVE GUARD, MODEL #1270-25, ATTACH WITH NYLON TIES, MODEL 1270-15, COLOR: GREEN. AVAILABLE THROUGH DAVID O'KEEFE CO., JEEF WHITMAN (925)-4404. SEE PLAN FOR LENGTH REQUIRED TO COVER OUTFIELD FENCING.	760 LF	–
L-15	8' PLAYERS BENCH. PATTERSON WILLIAMS MFG. CO., DUGOUT PLAYERS BENCH WITH SHELF, 8' BENCH WITH BACK, MODEL #1176-08A; SURFACE MOUNTED, ALUMINUM. AVAILABLE THROUGH NORCAL OUTDOOR SUPPLY CO., CONTACT JEFF WHITMAN, (925) 984-2075. COLOR: NONE.	4	–
L-16	BASEBALL BAT RACK. PATTERSON WILLIAMS ATHLETIC MFG. CO., BAT RACK HOLDER FOR 8 BATS, MODEL #1280-08P, IN-GROUND MOUNT, FINISH: ALUMINUM. AVAILABLE THROUGH NORCAL OUTDOOR SUPPLY CO., CONTACT JEFF WHITMAN, (925) 984-2075. COLOR: SLATE GRAY.	2	–
L-17	SCORER'S TABLE. PATTERSON WILLIAMS ATHLETIC MFG. CO., CUSTOM 8' ADA ALUMINUM TABLE WITH 6' BENCH, MODEL #1178-08A, ALUMINUM FRAME, SURFACE MOUNTED, ANODIZED SEAT/TOP PLANKS. AVAILABLE THROUGH NORCAL OUTDOOR SUPPLY CO., CONTACT JEFF WHITMAN (925) 984-2075.	1	–
L-18	STORAGE CONTAINER – KNAACK JOBMASTER CHEST, 16 C.F., 48" WIDE X 24" DEEP X 28" HIGH, MODEL NO. 4824, AVAILABLE FROM EMERSON PROFESSIONAL TOOLS, (800) 456-7865.	2	–
L-19	FOUL BALL POLE: LA STEELCRAFT PRODUCTS, INC., MODEL #FLP-20 CUSTOM FLAG POLE, 4-1/2 O.D. FOUL BALL POLE WITH DUAL SWING SETS, EACH WING STARTS 8' ABOVE GRADE, IN-GROUND MOUNT, POWDER COAT FINISH, WITH LA STEELCRAFT PRODUCTS, INC. POST PAD, MODEL #PP-745, 7' HIGH. AVAILABLE THROUGH NORCAL OUTDOOR SUPPLY CO., CONTACT JEFF WHITMAN (925) 984-2075. POWDER COAT COLOR: YELLOW. POST PAD COLOR: GREEN.	2	–
L-21	8-ROW BLEACHER. BELSON OUTDOORS, 8-ROW QUALITY SERIES BLEACHERS, 21' LONG, ALUMINUM FRAME W/ GALVANIZED STREET PICKET GUARDRAIL, MODEL #BNR-280 ADA COMPLAINT (HC), AVAILABLE THROUGH BELSON OUTDOORS, VANESSA MORALES (800) 525-5664. CONTRACTOR TO PROVIDE ANCHOR BOLTS SURFACE MOUNTED INSTALLATION.	2	–
L-22	POST AND CABLE FENCE. CONNECT TO EXISTING POST AND CABLE	50 LF	9/LL502
L-23	10' HIGH COURT FENCING. PLASTICIZED CHAIN LINK WITH BLACK COATING AND BLACK SCREEN.	215 LF	7/LL501
L-24	8' HIGH CHAIN LINK FENCE	508 LF	4/LL501
L-25	6' HIGH CHAIN LINK FENCE	255 LF	4/LL501
L-26	4' HIGH CHAIN LINK FENCE.	1,004 LF	4/LL501
L-27	4' X 4' ENTRANCE GATE	1	9/LL501
L-28	4' WIDE CHAINLINK DUGOUT GATE	2	5/LL501
L-29	8' WIDE DOUBLE MAINTENANCE GATES	1	6/LL501
L-30	12' WIDE DOUBLE MAINTENANCE GATES	2	6/LL501
L-31	CITY OF SACRAMENTO PARK ENTRY SIGN. MODEL #707, AS MANUFACTURED BY OUTDOOR CREATIONS OR APPROVED EQUAL. COLOR: MEDIUM GRAY. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.	1	–
L-32	PARK RULE SIGN TO INSTALL ON POST PER DETAIL T-270 OF THE CITY STANDARD SPECIFICATIONS. RULE SIGN PROVIDED BY CITY.	1	–
L-33	SIDEWALK BARRICADE PER CITY STD DTL #T-103	1	–
L-34	BASKETBALL COURT SIGN	1	–
L-35	PICKLEBALL COURT SIGN	1	–
L-36	FIELD 1 SIGN	1	–
L-37	FIELD 2 SIGN	1	–
L-38	PICKLEBALL NETTING PATTERSON WILLIAMS MODEL #8354. PICKLEBALL POST PATTERSON WILLIAMS MODEL #2202.11P. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.	4	–
L-39	BASKETBALL HOOP. PATTERSON MODEL #1590. INSTALL PER MANUFACTURER'S RECOMMENDATIONS	2	–
	LAYOUT		
SYMBOL	DESCRIPTION	QTY	DETAIL
	CONCRETE	13,490 SF	2/LL501
	ASPHALT PARKING. –UPDATE– REMOVE EXISTING TOP LAYER OF ASPHALT AND REPAVE.	30,931 SF	1/LL501
	PEDESTRIAN PAVERS. BELGARD HARDSCAPES HOLLAND B 90 DEGREE HERRINGBONE PATTERN. COLOR: VICTORIAN	1,781 SF	6/LL502
	BASKETBALL ASPHALT PAVING AND STRIPING.	7,280 SF	1/LL504
	PICKLEBALL COURT PAVING AND STRIPING. COLORS: INTERIOR PLAY SURFACE – TBD; EXTERIOR SURFACE: TBD.	10,291 SF	4/LL503
	DECOMPOSED GRANITE	1,937 SF	1/LL502
	SKINNED INFIELD MIX COMPACTED TO 4" DEPTH	10,620 SF	4/LL502
	TURF	155,063 SF	2/LP501



SEE DRAWING LL501 THROUGH LL504 FOR LAYOUT DETAILS

SEE DRAWING CV001 FOR GENERAL NOTES

811 Know what's below. Call before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO
Youth, Parks, & Community Enrichment

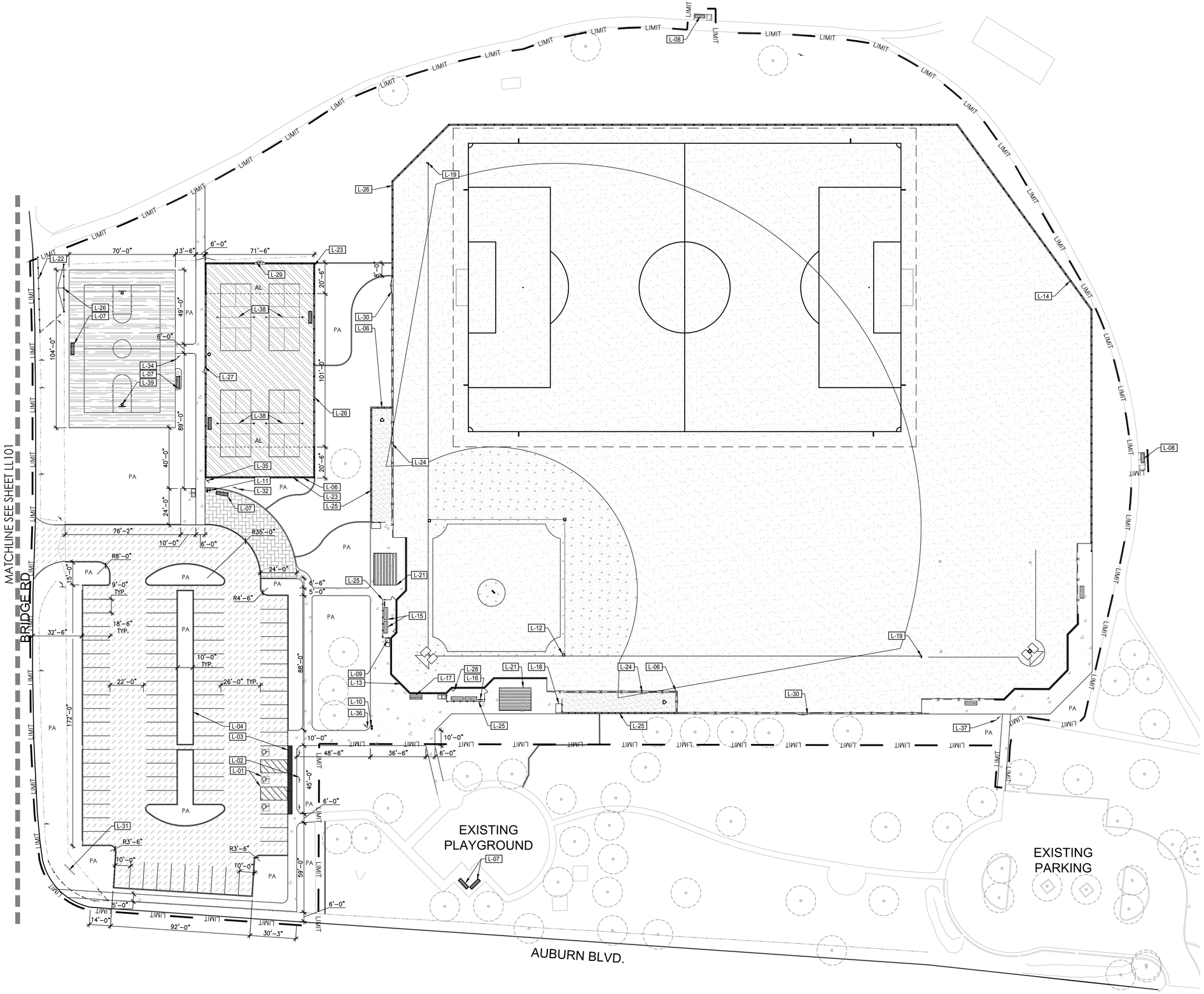
RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
LAYOUT PLAN

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

DESIGN BY: Stantec
DATE 05.01.2023
SCALE 1" = 30'-0"
P. N. LI9-3000-02
REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
LL101 of XX



SEE DRAWING CV001 FOR GENERAL NOTES

SEE DRAWING LL501 THROUGH LL504 FOR LAYOUT DETAILS

SEE DRAWING LL101 FOR LAYOUT LEGEND AND NOTES

N

0 30' 45' 60'
SCALE: 1"=30'-0"

811
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CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
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915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO
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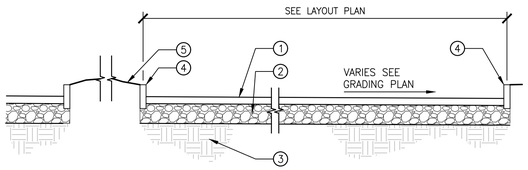
RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK (LI9300002)

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
LAYOUT PLAN

DESIGN BY: Stantec
DATE 05.01.2023
SCALE 1" = 30'-0"
P. N. LI9-3000-02
REVISIONS

PRELIMINARY
NOT FOR CONSTRUCTION

SHEET NO.
LL102 of XX

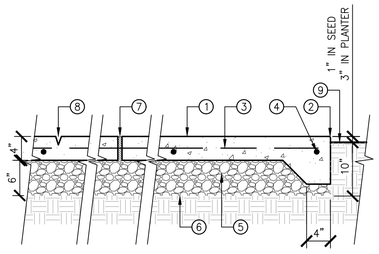


1. 3" ASPHALT CONCRETE
2. 9" AGGREGATE BASE, SHALL BE COMPACTED TO A MINIMUM OF 95% MAXIMUM DRY DENSITY PER GEOTECHNICAL REPORT. SEE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.
3. COMPACTED SUBGRADE. SUBGRADE SHALL BE UNIFORMLY MOISTURE CONDITIONED TO ACHIEVE OPTIMUM MOISTURE AND COMPACTED TO AT LEAST 90% OF THE ASTM D1557 MAXIMUM DRY DENSITY PER GEOTECHNICAL REPORT. SEE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.
4. TYPE 2 CURB W/ GUTTER OR TYPE 2 CURB W/O GUTTER. SEE LAYOUT PLAN.
5. ADJACENT PLANTER

NOTES:
A. DESIGN TRAFFIC INDEX IS 4.5.
B. REFER TO GEOTECHNICAL REPORT.

1 ASPHALT PAVING, TYPICAL SECTION

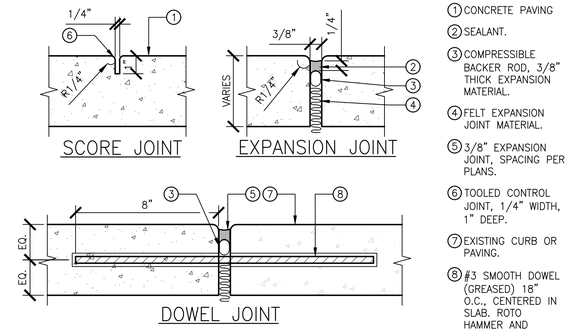
SCALE:1" = 1'-0" SECTION PROJ-SEC-05



1. CONCRETE PAVING, MEDIUM BROOM FINISH, PERPENDICULAR TO MAIN DIRECTION OF TRAVEL, UNLESS OTHERWISE NOTED ON PLANS. CROSS SLOPE 1% MIN. SEE LAYOUT PLAN FOR LOCATIONS OF SCORE JOINTS AND EXPANSION JOINTS.
2. 1/2" RADIUS, TYP.
3. #3 REBAR AT 24" O.C. BOTH WAYS, CENTERED IN SLAB.
4. THICKENED EDGE WITH #3 HORIZ. REBAR, TYP.
5. CLASS II AGGREGATE BASE, COMPACTED PER GEOTECHNICAL REPORT.
6. COMPACTED SUBGRADE PER GEOTECHNICAL REPORT.
7. FELT EXPANSION JOINT MATERIAL: 3/8" ALONG FULL DEPTH OF CONCRETE.
8. TOOLED SCORE JOINT: 1/4" MAXIMUM WIDTH.
9. FINISH GRADE.

2 CONCRETE PAVING W/REBAR

SCALE:1" = 1'-0" SECTION PROJ-SEC-12

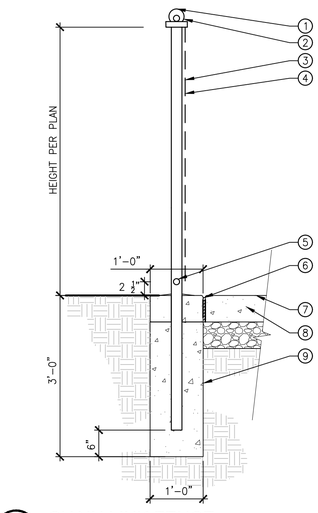


1. CONCRETE PAVING
2. SEALANT.
3. COMPRESSIBLE BACKER ROD, 3/8" THICK EXPANSION MATERIAL.
4. FELT EXPANSION JOINT MATERIAL.
5. 3/8" EXPANSION JOINT, SPACING PER PLANS.
6. TOOLED CONTROL JOINT, 1/4" WIDTH, 1" DEEP.
7. EXISTING CURB OR PAVING.
8. #3 SMOOTH DOWEL (GREASED) 18" O.C., CENTERED IN SLAB. ROTO HAMMER AND MORTAR DOWEL INTO EXISTING CONCRETE.

NOTES:
A. SEE LAYOUT FOR JOINT LOCATIONS AND COORDINATE PRIOR TO POUR.

3 CONCRETE JOINTS

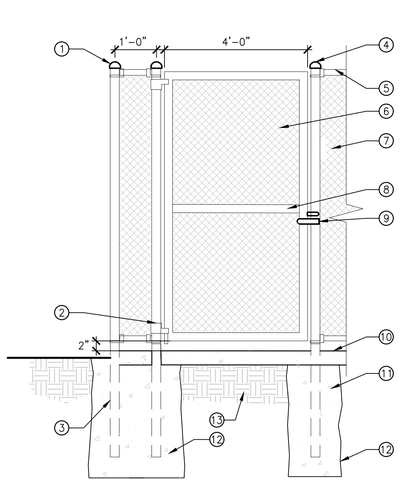
SCALE:NTS SECTION PROJ-SEC-13



1. STANDARD EYE-TOPS @ POSTS
2. TOP RAIL, PER SPECS
3. CHAIN LINK FABRIC, PER SPECS. PLACE FABRIC ON BALLFIELD SIDE.
4. LINE/END POST LOCATE IN CENTER OF CONCRETE STRIP. SPACING AT 10'-0" O.C.
5. BOTTOM RAIL
6. PLACE EXPANSION JOINT BETWEEN MOW STRIP AND CONCRETE PAVEMENT, WHERE APPLICABLE
7. FINISH GRADE
8. CONCRETE MOW STRIP SEE PLAN FOR LOCATION
9. CONCRETE FOOTING

4 CHAIN LINK FENCE

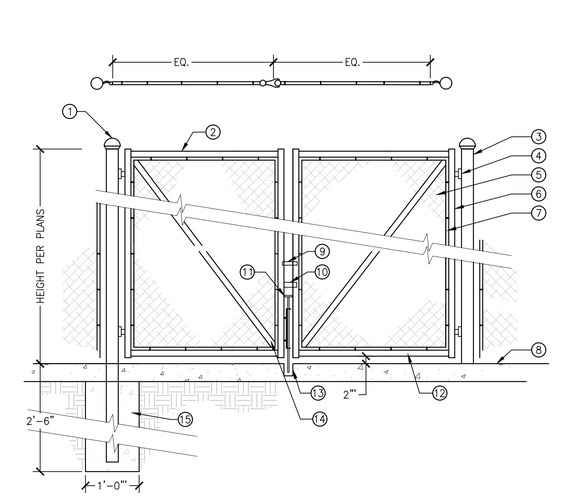
SCALE:3/4" = 1'-0" SECTION PROJ-SEC-06



1. SET POST PLUMB, TYPICAL
2. HEAVY DUTY HINGE 2 PER GATE, TYP.
3. GATE POST PER SPECS.
4. 2.875" TERMINAL POST
5. 1.660" HORIZONTAL SUPPORT POST, TOP AND BOTTOM OF PANEL.
6. PEDESTRIAN GATE
7. 42" WIDE GATE FRAME WITH GALVANIZED CHAIN LINK FABRIC.
8. CROSS SUPPORT
9. PROVISION FOR PAD LOCK
10. CONCRETE FLATWORK.
11. EXTENDED POST & CONCRETE FOOTING FOR TERMINAL POST ONLY.
12. CONCRETE FOOTING & TERMINAL POST.
13. COMPACTED SUBGRADE

5 CHAINLINK DUGOUT GATE

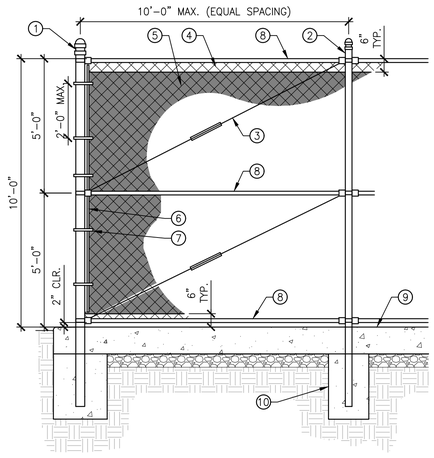
SCALE:1/2" = 1'-0" SECTION PROJ-SEC-07



1. GATE POST
2. TOP RAIL, TYP.
3. GATE POST
4. POST HINGE, 2 PER GATE
5. CHAINLINK FABRIC
6. GATE FRAME
7. TENSION BAR
8. CONCRETE MOWSTRIP
9. STRIKE PLATE
10. FULCRUM LATCH WITH PROVISIONS FOR PAD LOCK
11. DROP BAR
12. BOTTOM RAIL
13. CORE DRILL HOLE IN CONCRETE MOWBAND TO RECEIVE DROP BAR
14. TRUSS ROD WITH TURN BUCKLES, PER SPECS.
15. CONCRETE FOOTING

6 DOUBLE MAINTENANCE GATES

SCALE:3/4" = 1'-0" SECTION PROJ-SEC-08

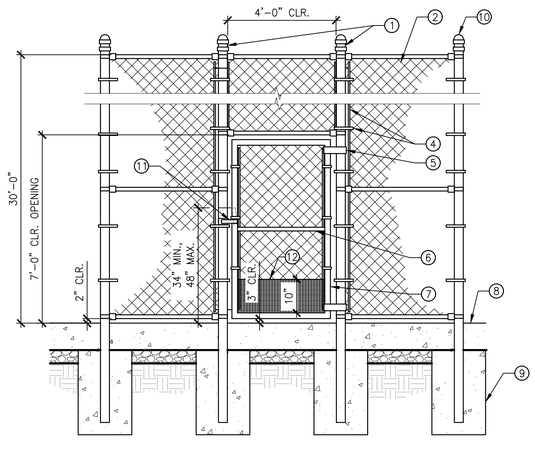


1. END CORNER POSTS 4" O.D. NOMINAL PIPE SIZE
2. LINE POSTS, 4" O.D. NOMINAL PIPE SIZE, TYP.
3. TENSION ROD W/ TURN BUCKLE, TYP.
4. FABRIC MESH ISNTALLED ON INSIDE OF ALL COURTS. TIE TO ALL HORIZONTAL RAILS AT 12" MAX. SPACING, SEE SPECS
5. 9' OPEN MESH WINDSCREEN INSTALLED ON COURTS SIDE, TYP. SEE SPECS
6. FLAT STRETCHER BAR, TYP.
7. BANDS, MAX 24" SPACING.
8. TOP, BOTTOM, AND MIDDLE RAIL 1.66" O.D. NOMINAL PIPE SIZE, TYP.
9. PERIMETER CONCRETE CURB FLUSH WITH COURT SURFACE. SEE STRUCTURAL PLANS
10. CONCRETE FOOTING, SEE STRUCTURAL PLANS

NOTES:
A. ALL CHAIN LINK GATES, POSTS, PLATES, RAILS, FRAMES, AND HARDWARE SHALL BE PER SPEC SECTION 32 31 13
B. REFER TO MASTER COLOR SCHEDULE ON SHEET L2.01 FOR FINISH.
C. SHOP DRAWINGS REQUIRED.
D. PERMIT REQUIRED.

7 10' CHAIN LINK FENCE

SCALE:3/8" = 1'-0" SECTION PROJ-SEC-09

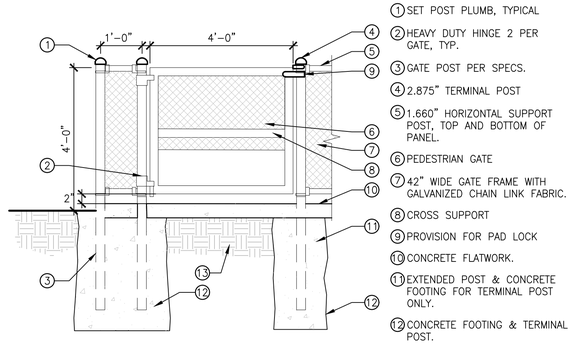


1. 4" O.D. NOMINAL PIPE SIZE, TYP.
2. FABRIC MESH INSTALLED ON INSIDE OF ALL COURTS. TIE TO ALL HORIZONTAL RAILS AT 12" MAX. SPACING, SEE SPECS
3. 1/4" x 3/4" BANDS AND FLAT STRETCHER BAR AT END AND CORNER POST, TYP.
4. STD. 90* GATE HINGE, OPEN OUTWARDS
5. BRACE 1.66" O.D. NOMINAL PIPE SIZE, TYP.
6. GATE FRAME. 2" O.D. NOMINAL PIPE SIZE, TYP.
7. FINISHED GRADE OF PERIMETER CONCRETE CURB
8. CONCRETE FOOTING, SEE DETAIL 2, THIS SHEET AND STRUCTURAL PLANS
9. POST CAP, TYP. SEE SPECS.
10. ADA STANDARD GALVANIZED STEEL LOCKABLE GATE LATCH, BOTH SIDES OF GATE
11. 3/16" GALVANIZED KICK PLATE. WELD ON PUSH SIDE OF GATE. GRIND EDGES SMOOTH PRIOR TO GALVANIZING.

NOTES:
A. SHOP DRAWINGS ARE REQUIRED.
B. PERMIT REQUIRED.

8 SINGLE GATE AT BACKSTOP

SCALE:3/8" = 1'-0" SECTION PROJ-SEC-10



1. SET POST PLUMB, TYPICAL
2. HEAVY DUTY HINGE 2 PER GATE, TYP.
3. GATE POST PER SPECS.
4. 2.875" TERMINAL POST
5. 1.660" HORIZONTAL SUPPORT POST, TOP AND BOTTOM OF PANEL.
6. PEDESTRIAN GATE
7. 42" WIDE GATE FRAME WITH GALVANIZED CHAIN LINK FABRIC.
8. CROSS SUPPORT
9. PROVISION FOR PAD LOCK
10. CONCRETE FLATWORK.
11. EXTENDED POST & CONCRETE FOOTING FOR TERMINAL POST ONLY.
12. CONCRETE FOOTING & TERMINAL POST.
13. COMPACTED SUBGRADE

9 4' X 4' PICKLEBALL GATE

SCALE:1/2" = 1'-0" SECTION PROJ-SEC-11

Know what's **below.** **Call** before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK

LAYOUT DETAILS

DESIGN BY: Stantec

DATE 05.01.2023

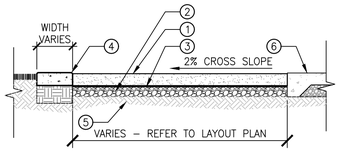
SCALE 1" = 30'-0"

P. N. LI19-3000-02

REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

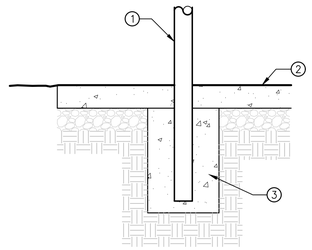
SHEET NO.
LL501 of XX



1. DECOMPOSED GRANITE: 4" DEPTH W/ STABILIZER, FLUSH WITH CONCRETE. INSTALL IN (2) 2" LIFTS.
2. CLASS II AGGREGATE BASE, COMPACTED PER GEOTECHNICAL REPORT
3. SOIL PREPARATION FABRIC MIRAFI 140–N OR EQUAL.
4. ADJACENT 6" OR 12" CONCRETE MOWBAND, REFER TO LAYOUT PLAN.
5. COMPACTED SUBGRADE TO 95% RELATIVE COMPACTION.
6. ADJACENT CONCRETE PAVING.

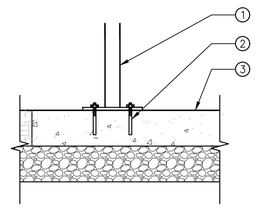
NOTES:
A. SEE SPECS. FOR ADDITIONAL INFORMATION.

1 DECOMPOSED GRANITE PAVING
SCALE:1/2" = 1'-0" — SECTION PROJ-DEL-01



1. SITE FURNISHINGS POST
2. CONCRETE PAVEMENT
3. CONCRETE FOOTING PER MANUFACTURER'S RECOMMENDATIONS

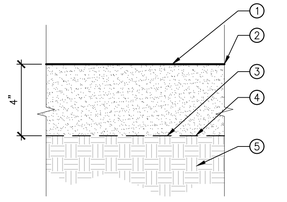
2 IN-GROUND MOUNT
SCALE:NTS — SECTION PROJ-DEL-02



1. FURNITURE TO BE BOLTED.
2. 1/2" DIA. COVERT INJECTION ADHESIVE ANCHOR BOLTS. 2–1/2" MIN. IMBEDMENT.
3. FINISH GRADE OF PAVEMENT.

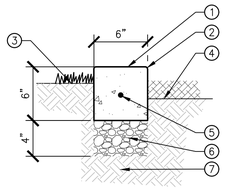
NOTES:
A. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION AND MOUNTING INSTRUCTIONS.

3 SURFACE MOUNT
SCALE:1" = 1'-0" — SECTION PROJ-DEL-03



1. INFIELD MIX (SEE SPECIFICATIONS)
2. FINISH GRADE SEE PLAN
3. LANDSCAPE WEED FABRIC
4. RAKE OUT ALL STONES EXPOSED ON SURFACE THAT ARE GREATER THAN 1" IN ANY DIRECTION
5. SUBGRADE COMPACTED TO 90%

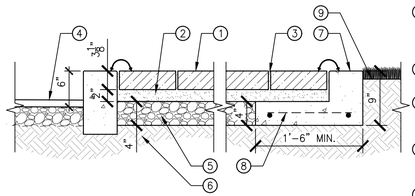
4 INFIELD MIX
SCALE:3" = 1'-0" — SECTION PROJ-DEL-04



1. CONCRETE MOWBAND WITH MEDIUM BROOM FINISH. INSTALL FIBER EXPANSION JOINTS AT ADJACENT PAVING, INSTALL SCORE JOINTS AT 10'–0" O.C. MAX.
2. 1/4" RADIUS EDGE, TYP.
3. FINISH GRADE.
4. FINISH GRADE OF PLANTER AREA WITH MULCH. HOLD 3" BELOW TOP OF MOWBAND.
5. #4 HORIZONTAL REBAR, CONTINUOUS.
6. CLASS II AGGREGATE BASE, COMPACTED PER GEOTECHNICAL REPORT.
7. COMPACTED SUBGRADE PER GEOTECHNICAL REPORT.

NOTE: INSTALL MOW BAND TO EXTENT OF PUE. ADJACENT RESIDENTIAL FENCE FOOTING AND POST SHALL BE INSTALLED THE PUE.

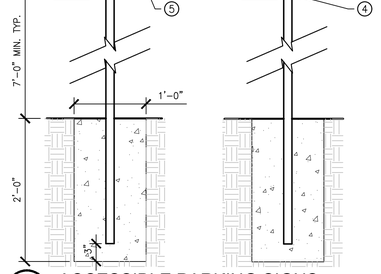
5 6" CONCRETE MOWBAND
SCALE:1 1/2" = 1'-0" — SECTION PROJ-DEL-11

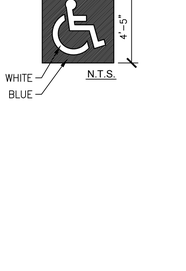


NOTES:
A. INSTALL PERMEABLE PAVERS PER MANUFACTURER'S RECOMMENDATIONS.

1. PAVERS
2. BEDDING COURSE (TYP. ASTM NO. 8 OR NO. 9 AGGREGATE)
3. ASTM NO.8 OR NO.9 AGGREGATE IN OPENINGS. COLOR TO MATCH PAVERS, TYP.
4. ADJACENT ASPHALT PARKING
5. MIN. 4" THICK ASTM NO. 57 STONE OPEN – GRADED BASE.
6. UNDISTURBED SOIL SUBGRADE SLOPED TO DRAIN.
7. ADJACENT CONCRETE BAND. 6" WIDE.
8. #3 REBAR @ 12" O.C.E.W.
9. FINISH GRADE. 3" BELOW TOP OF CURB IN PLANTING.

6 CONCRETE PAVERS
SCALE:1" = 1'-0" — SECTION PROJ-DEL-12

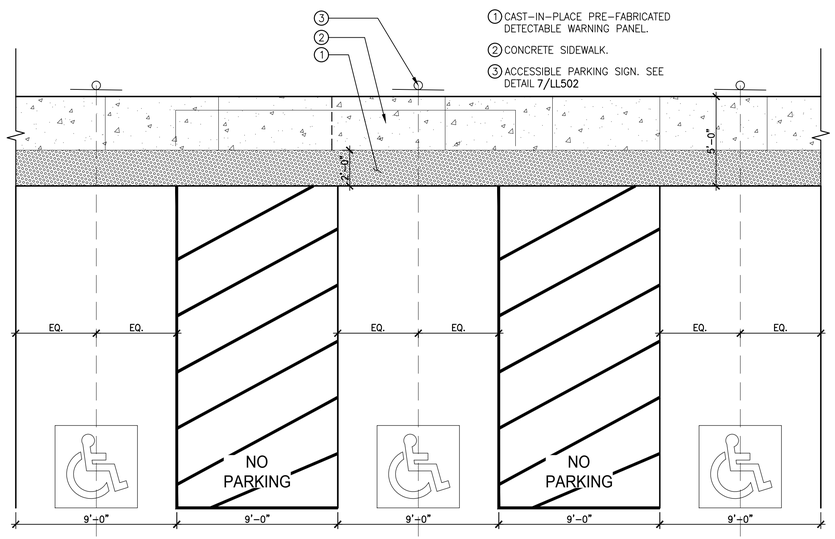




1. #10 1" PHILLIPS HEAD SELF–TAPPING SCREW, TYP.
2. R99C ISA PARKING SIGN, PER STATE OF CALIFORNIA DEPT. OF TRANSPORTATION STANDARD PLAN A90A.
3. R7–8B ISA VAN ACCESSIBLE PARKING SIGN, PER STATE OF CALIFORNIA DEPT. OF TRANSPORTATION STANDARD PLAN A90A, PER PLAN LOCATION.
4. 1–3/8" DIAMETER STANDARD STEEL POST WITH CAP.
5. SIGN R100B PER STATE OF CALIFORNIA DEPT. OF TRANSPORTATION STANDARD PLAN A90A, TO BE INSTALLED AT ENTRANCE TO PARKING LOT.

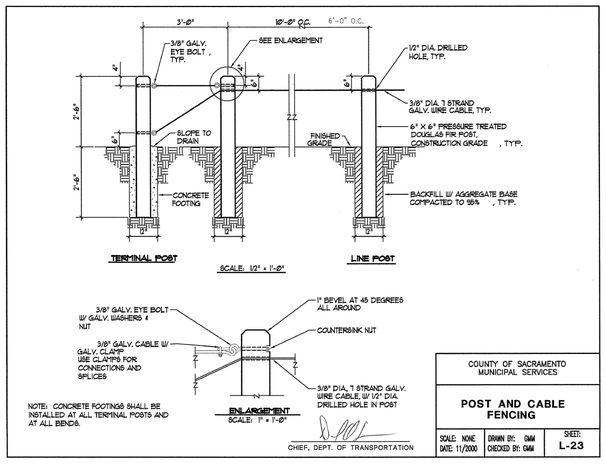
NOTES:
A. DETAILED SHOP DRAWINGS OF SIGNS TO BE SUBMITTED BY CONTRACTOR AND APPROVED BY CITY PRIOR TO FABRICATION.
B. 1.35M X 1.35M DIMENSION PER CALTRANS STD. PLAN A24C. PAINT REFLECTIVE WHITE ON BLUE FIELD.
C. PAINT SHALL BE FAST DRY, LOW VOC, SOLVENT BASE WHITE AND BLUE PAINT. SEE TECHNICAL PROVISIONS FOR DETAILS.

7 ACCESSIBLE PARKING SIGNS
SCALE:NONE — SECTION PROJ-DEL-13



1. CAST–IN–PLACE PRE–FABRICATED DETECTABLE WARNING PANEL.
2. CONCRETE SIDEWALK.
3. ACCESSIBLE PARKING SIGN. SEE DETAIL 7/LL502

8 ACCESSIBLE PARKING STALL AND STRIPING
SCALE:1/4" = 1'-0" — SECTION PROJ-DEL-23

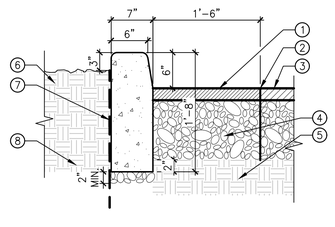


COUNTY OF SACRAMENTO
MUNICIPAL SERVICES

POST AND CABLE FENCING

SCALE: NONE	DRAWN BY: GMM	SHEET:
DATE: 11/2000	CHECKED BY: GMM	L-23

9 POST AND CABLE FENCE
SCALE:N.T.S. — SECTION PROJ-DEL-98



1. REMOVE EXISTING ASPHALT CONCRETE AND AGGREGATE BASE ROCK AS REQUIRED, FOR CURB INSTALLTION.
2. SAWCUT LINE.
3. EXISTING ASPHALT CONCRETE.
4. REPLACE ASPHALT CONCRETE AND AGGREAGTE BASE ROCK AS REQUIRED TO MATCH EXISTING DEPTH. 95% COMPACTION.
5. SUBGRADE, 95% COMPACTION.
6. APPROVED AMENDED IMPORT SOIL, 18" MIN. DEPTH.
7. 2' DEEP ROOT BARRIER ADJACENT TO CURB, WHERE APPLICABLE. REFER TO PLANTING PLAN FOR LOCATIONS.
8. REMOVE ALL ASPHALT CONCRETE AND AGGREGATE BASE ROCK FROM PLANTER AND SCARIFY BOTTOM TO 12" DEPTH.

10 6" CONCRETE CURB
SCALE:1" = 1'-0" — SECTION PROJ-DEL-99

Know what's below. Call before you dig.

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DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO
Youth, Parks, & Community Enrichment

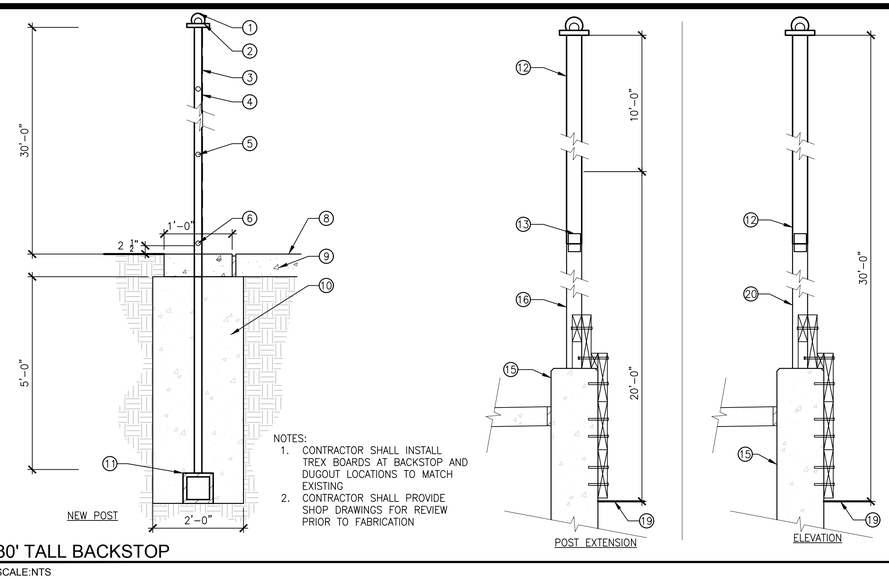
RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK (LI9300002)

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK
LAYOUT DETAILS

DESIGN BY: Stantec
DATE 05.01.2023
SCALE 1" = 30'-0"
P. N. LI9-3000-02
REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

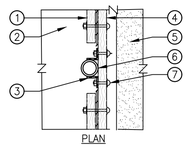
SHEET NO.
LL502 of XX

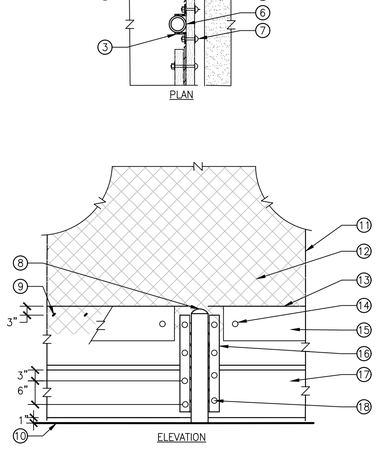


NOTES:
1. CONTRACTOR SHALL INSTALL TREX BOARDS AT BACKSTOP AND DUGOUT LOCATIONS TO MATCH EXISTING
2. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION

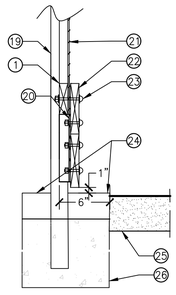
1. STANDARD EYE-TOPS @ POSTS
2. TOP RAIL, PER SPECS
3. CHAIN LINK FABRIC, PER SPECS. PLACE FABRIC ON BALLFIELD SIDE.
4. LINE/END POST, 4" DIA SCH 40 GALVANIZED PIPE. LOCATE IN CENTER OF CONCRETE STRIP. SPACNG AT 10'-0" O.C.
5. INTERMEDIATE RAIL, SPACED EQUALLY.
6. BOTTOM RAIL
7. PLACE EXPANSION JOINT BETWEEN MOW STRIP AND CONCRETE PAVEMENT.
8. FINISH GRADE
9. CONCRETE MOW STRIP SEE PLAN FOR LOCATION
10. DRILLED PIER CONCRETE FOOTING, (F'C=2,500 PSI MIN.)
11. SET ON 8"X8"X8" OPEN CMU BLOCK
12. NEW 4" DIA SCH 40 PIPE, 10' EXTENSION WITH CHAIN LINK FABRIC
13. NEW 3.5" DIA SCH 40 PIPE, 4" LONG
14. (2) 3.5"X3.5"X3/8"X4" LONG GALVANIZED ANGLE IRON
15. EXISTING RETAINING WALL
16. EXISTING 4" DIA, SCH 40 PIPE
17. 5/8" DIAX4" LONG HILTI KB-TZ (GALVANIZED)
18. NEW 4" SLEEVE OVER EXISTING 2.5" POST WITH CHAINLINK FABRIC
19. FINISH GRADE
20. EXISTING 2.5" DIA, SCH 40 PIPE

1 30' TALL BACKSTOP
SCALE:NTS — SECTION/PLAN
PROJ-DEL-10





1. 2X6 BOARD, SEE SPECS.
2. CONCRETE FLATWORK
3. WELD GALV. STEEL ANGLE BRACKET 2"X2"X1/4" THICK. LENGTH AS REQUIRED. EASE ALL SHARP EDGES.
4. 2 TIER HIGH 2X12 BOARDS, SEE SPECIFICATIONS.



5. INFIELD SURFACING 1/2" BELOW CONCRETE MOWSTRIP, SEE SPECIFICATIONS.
6. LINE OR INTERMEDIATE POST, GALV. STEEL, TYP.
7. 3/8" DIA. GALV. STEEL CARRIAGE BOLT, WASHER AND NUT. CUT OFF PROTRUDING BOLT ENDS FLUSH TO FACE OF NUT, GRIND SMOOTH.
8. INTERMEDIATE SUPPORT POST, 3" O.D., MIDWAY BETWEEN LINE POSTS.
9. STAPLE CHAIN LINK FABRIC TO 2X12 BOARD @ 6" O.C.
10. FINISHED GRADE OF CONCRETE FLATWORK
11. CHAIN LINK FABRIC
12. LINE POST GALVANIZED STEEL
13. ALIGN TOP OF 2X6 WITH TOP OF 2X12
14. SPACE OLTS 2'-0" O.C., AT 2X6 ONLY.
15. 2"X6" BOARD, SEE SPECIFICATIONS.
16. WELD GALV. STEEL ANGLE BRACKET 2"X2"X1/4" THICK. LENGTH AS REQUIRED. EASE ALL SHARP EDGES.
17. 2"X12" BOARD, SEE SPECIFICATIONS.
18. 3/8' DIA. CARRIAGE BOLTS, LOCK WASHERS AND NUTS. CUT OFF PROTRUDING BOLT ENDS FLUSH TO FACE OF NUT, GRIND SMOOTH.
19. 3" (OR 2-1/2" O.D.) G.S.P. POST
20. ANKLE BRACKET
21. CHAIN LINK FABRIC SANDWICHED BETWEEN A 2X6 AND 2X12 BOARD. BOTTOM EDGE OF FABRIC TO BE 6" BELOW TOP OF 2X12 BOARD. STAPLE FABRIC @ 6" O.C. TO 2X12 BOARD.
22. 2"X12" BOARD, (2 TIER HIGH ALONG 8' FENCE AND 4 TIER HIGH AT BACKSTOP), AS SHOWN ON PLANS.
23. 3/8" DIA. CARRIAGE BOLT, WASER AND NUT GRIND SMOOTH.
24. EXTEND CONCRETE MOWSTRIP 6" BEYOND CENTER LINE OF FENCE.
25. FINISH GRADE.
26. CONCRETE FOOTING

NOTE:
1. ALL BOARDS SHALL BE MADE OF TREX PER SPECIFICATIONS.
2. ALL FENCING FABRIC SHALL BE 2" MESH, 9 GAUGE. TIES TO BE SECURE FABRIC POSTS, AND TRUSSES SHALL BE 11 GAUGE AT 14" ON CENTER.
3. SPACE BOLTS AT 2'O.C. ALONG 2X6 ONLY.
4. ALIGN TOP OF 2X6 WITH TOP OF 2X12.
5. ALIGN BOLTS VERTICALLY AND HORIZONTALLY.

2 BASEBOARDS FOR BACKSTOP AND 8' FENCE
SCALE:NTS — SECTION/PLAN
PROJ-DEL-06

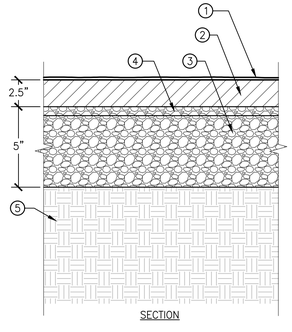
SECTION A: POST FOOTING

NOTES:
1. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ALL COMPONENTS OF FENCING AND PICKLEBALL COURT PAVING, INCLUDING MANUFACTURER'S SPECS.
2. ALL POSTS, RAILS & HARDWARE TO BE POWDER COATED BLACK.

SECTION B: CONTAINMENT CURB

1. COURT FENCE POST.
2. CONCRETE FOOTING.
3. SUBGRADE COMPACTED PER GEOTECH.
4. PICKLEBALL COURT PAVING.
5. LANDSCAPE AREA OR CONCRETE FLATWORK, SEE PLAN.
6. CONCRETE CONTAINMENT CURB.
7. 1/8" RADIUS AT ALL CURB EDGES, TYP.

3 COURT FENCING FOOTING & 12" CURB
SCALE:NTS — SECTION
PROJ-DEL-01



1. PLEXIPAVE TENNIS COURT SURFACING SYSTEM (800-255-1141) SHALL BE APPLIED TO ALL FINISHED A.C. SURFACING SYSTEM SHALL INCLUDE REFINEMENT MATERIAL, COLOR COATING, PAINT AND PROTECTIVE COAT.
2. A.C. PAVING, CLASS 'A', INSTALLED IN 1-1/4" LIFTS.
3. COMPACTED CLASS II AGGREGATE BASE PER GEOTECHNICAL REPORT.
4. 1/2" AGGREGATE FINISHING LAYER, IF NEEDED FOR LEVELING.
5. COMPACTED SUBGRADE PER GEOTECH.

4 PICKLEBALL COURT PAVING
SCALE:NTS — SECTION
PROJ-DEL-37

Know what's **below.** **Call** before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO
Youth, Parks, & Community Enrichment

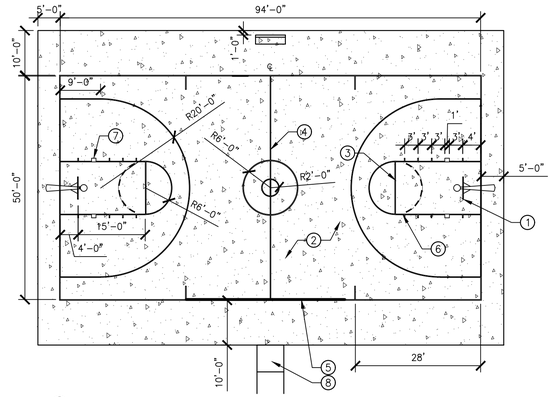
RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK
LAYOUT DETAILS

DESIGN BY: Stantec
DATE 05.01.2023
SCALE 1" = 30'-0"
P. N. LI9-3000-02
REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

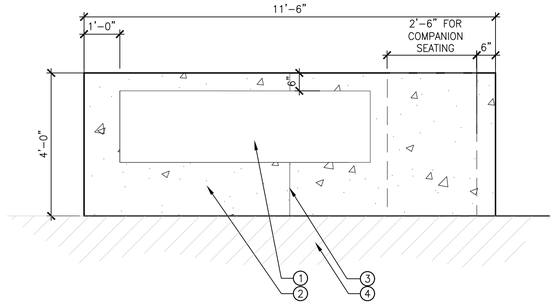
SHEET NO.
LL503 of XX



1. BASKETBALL STANDARD, INSTALL PER MANUFACTURER'S SPECIFICATIONS.
2. ASPHALT PAVING
3. FREE THROW LINE
4. HALF COURT LINE
5. ALL BASKETBALL COURT LINES SHALL BE 2" WIDE WHITE, UNLESS OTHERWISE INDICATED. SEE SPECS FOR PAINT TYPE.
6. 2" WIDE BY 8" DEPTH KEY MARKINGS
7. 12" WIDE BY 8" DEPTH KEY MARKINGS
8. ADJACENT CONCRETE WALK

1 BASKETBALL COURT

SCALE:1/16" = 1'-0" PLAN

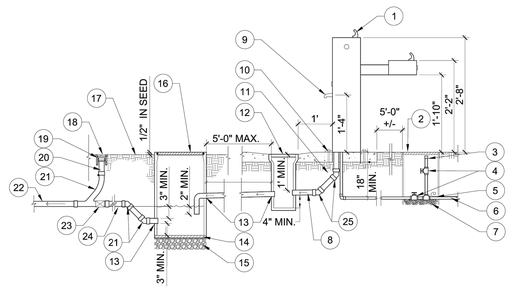


1. BENCH. AS MANUFACTURED BY OUTDOOR CREATIONS, INC., SEE LAYOUT LEGEND FOR SPECS.
2. CONCRETE FLATWORK.
3. SCORE JOINT.
4. EXISTING DG TRAIL.

2 CONCRETE BENCH PAD

SCALE:1/2" = 1'-0" PLAN

PROJ-DEL-38



CALLOUTS

1. DRINKING FOUNTAIN, INSTALL PER MANUFACTURES SPECIFICATIONS
2. VALVE BOX WITH LOCKING LID, TYPICAL.
3. BLOWOFF VALVE (1" TEE, 1" THREADED GALV. RISER, 1" PVC CAP, HAND TIGHTEN TYPICAL
4. 1" GATE VALVE (TYP.)
5. TRACER WIRE TAPE TO WATER LINE EVERY 5' O.C.
6. SCHEDULE 40 P.V.C. PIPE, CONNECT TO WATER METER AND BACKFLOW
7. 3/4" DIA. DRAIN ROCK
8. 2" ABS DRAIN LINE SLOPED AT 2% TO CLEANOUT
9. JUG FILLER WITH VACUUM BREAKER
10. 4-1/2" DIA. BOLTS SET IN CONCRETE
11. 12"+\- AREA OF CONCRETE SURROUNDING GRATE SHALL BE SLOPED TO GRATE CLEANOUT: 12" INSIDE DIAMETER CONCRETE BOX STEEL GRATE
12. WATER STOP, TYP.
13. POUR IN PLACE CONCRETE BOTTOM
14. 3/4" DIA. DRAIN ROCK
15. CLEANOUT: 12" X 18" CONCRETE BOX WITH SOLID TRAFFIC RATED LID
16. FINISH GRADE BEFORE PLANTING
17. REINFORCED CONCRETE VALVE BOX AND LID
18. JIMMY CAP
19. ABS DRAIN LINE (TYP.)
20. LONG SWEEP "Y" FITTING
21. 45 DEGREE ABS ELBOWS TYP.
22. WHEN TOP OF GRATE IS LOWER THAN THE NEXT UPSTREAM MANHOLE COVER, A BACKWATER VALVE IS REQUIRED AT THIS LOCATION.
23. 4" ABS DRAIN PIPE SLOPED AT MIN. 2% TO SANITARY SEWER STUB.

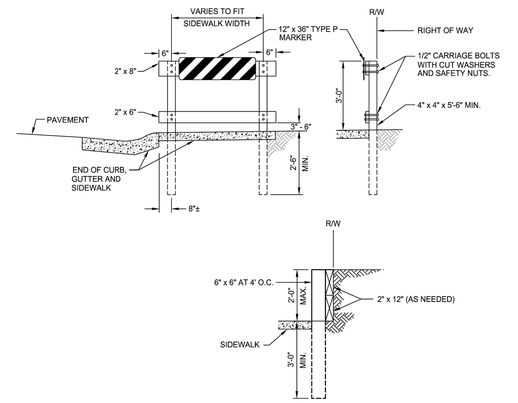
NOTE:

1. IF DRINKING FOUNTAIN HAS JUG FILLER SLOTTED CLEANOUT DRAIN MUST BE LOCATED ON JUG FILLER SIDE, SLOPED TO DRAIN.

REV.	DATE	DESCRIPTION

CITY OF SACRAMENTO Department of Youth, Parks and Community Enrichment	DRINKING FOUNTAIN	APPR'D BY: DDahl DATE: APRIL 2020 DWG. NO. L-500

3 DRINKING FOUNTAIN



STREET ENDING IN CUT WHERE SLOPE NOT OBTAINABLE

NOTES:

1. SIDEWALK BARRICADE TO BE ERECTED AT EACH LOCATION WHERE SATISFACTORY PROVISION CANNOT BE MADE FOR PEDESTRIANS TO CONTINUE BEYOND THE TERMINOUS OF A SIDEWALK.
2. ALL EXPOSED SURFACES TO BE PAINTED WITH TWO (2) COATS OF WHITE PAINT. ALL PAINT TO CONFORM TO SEC. 91-3.02 OF CALTRANS STANDARD SPECIFICATIONS.
3. ALL MATERIAL USED IN THE CONSTRUCTION OF BARRICADE SHALL BE TREATED DOUGLAS FIR IN CONFORMANCE WITH SEC 56-2.02 OF CALTRANS STANDARD SPECIFICATIONS.

REV.	DATE	DESCRIPTION

CITY OF SACRAMENTO DEPARTMENT OF PUBLIC WORKS	SIDEWALK BARRICADE	APPROVED BY: Nader Fanaki DATE: APRIL 2020 DWG. NO. T - 103

4 SIDEWALK BARRICADE

811 Know what's below. Call before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK (LI9300002)

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK

LAYOUT DETAILS

DESIGN BY: Stantec

DATE 05.01.2023

SCALE 1" = 30'-0"

P. N. LI9-3000-02

REVISIONS

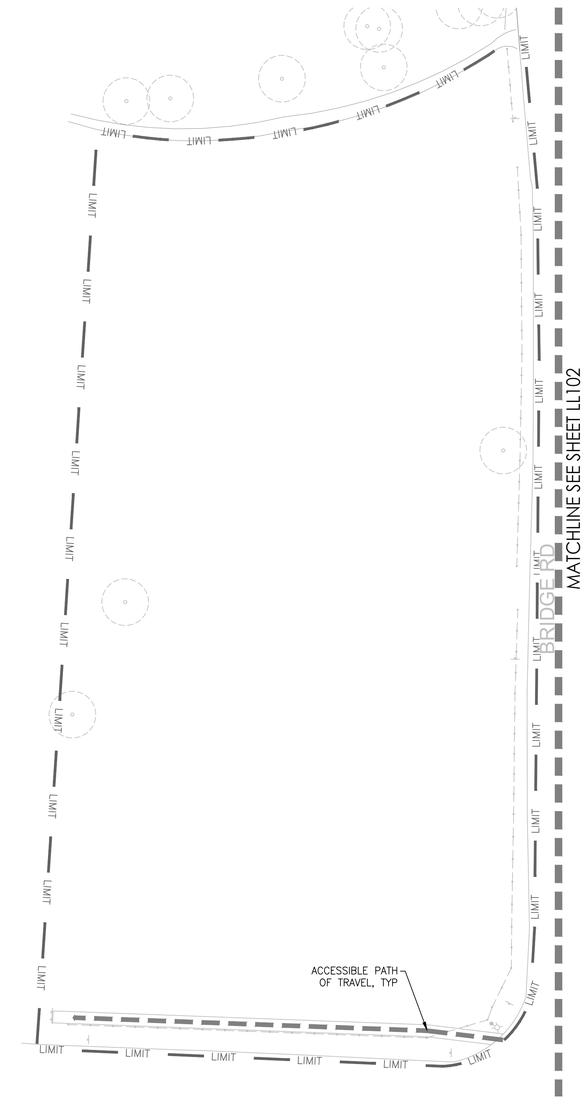
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.

LL504 of XX

ACCESSIBILITY NOTES

1. ACCESSIBLE PATH OF TRAVEL SHALL BE A MINIMUM OF 48" WIDE. CROSS SLOPE SHALL BE LESS THAN 2% AND RUNNING SLOPE SHALL BE LESS THAN 5%. NO ABRUPT CHANGES IN ELEVATION EXCEEDING 1/4".
2. SITE ACCESSIBILITY SIGNAGE AND EXTERIOR ACCESSIBLE ROUTES OF TRAVEL FROM THE PRIMARY ENTRANCE TO PUBLIC SIDEWALK AND ACCESSIBLE PARKING SHALL BE IN COMPLIANCE WITH CURRENT CODE.



SEE DRAWING LL501 THROUGH LL504 FOR LAYOUT DETAILS

SEE DRAWING CV001 FOR GENERAL NOTES

N

0 30' 45' 60'
SCALE: 1"=30'-0"

811 Know what's **below.** **Call** before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO
Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION (LI9300002)

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
ACCESSIBILITY PLAN

DESIGN BY: Stantec

DATE 05.01.2023

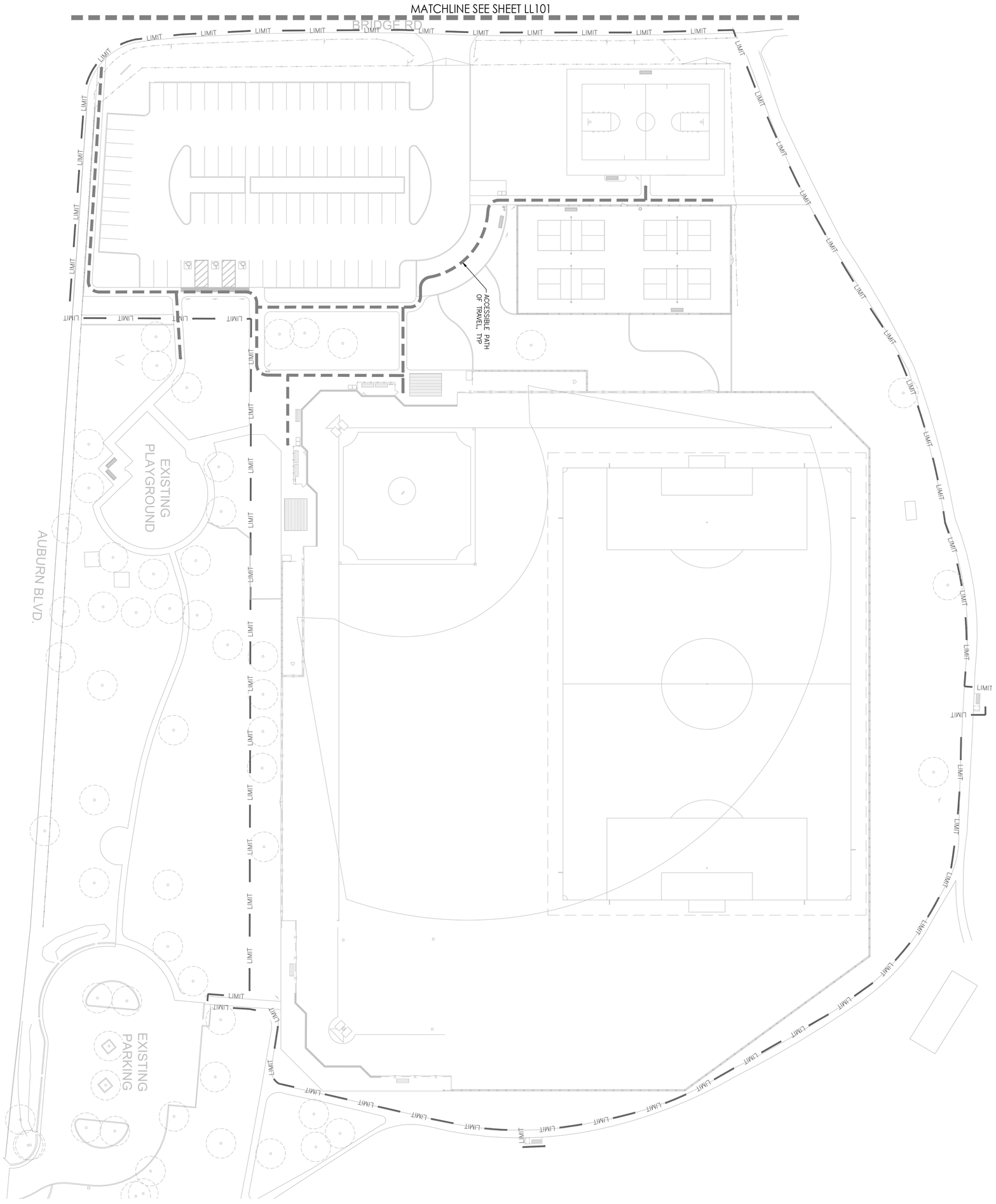
SCALE 1" = 30'-0"

P. N. LI9-3000-02

REVISIONS

PRELIMINARY
NOT FOR CONSTRUCTION

SHEET NO.
LA101 of XX



SEE DRAWING LL501 THROUGH LL504 FOR LAYOUT DETAILS

SEE DRAWING CV001 FOR GENERAL NOTES

Know what's below. Call before you dig. 811

SCALE: 1"=30'-0"

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
ACCESSIBILITY PLAN

SHEET NO. LA102 of XX

PRELIMINARY NOT FOR CONSTRUCTION

REVISIONS

P. N. LI9-3000-02

SCALE 1" = 30'-0"

DATE 05.01.2023

DESIGN BY: Stantec

City of SACRAMENTO
Youth, Parks, & Community Enrichment

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

IRRIGATION NOTES

1. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC., SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY, AND SHALL BE INSTALLED IN PLANTING AREAS WHEREVER POSSIBLE. CONTRACTOR SHALL LOCATE IRRIGATION PIPES AND EQUIPMENT FREE FROM ALL UTILITY AND SITE CONFLICTS. ALL DIMENSIONS, QUANTITIES AND MATERIALS SHALL BE VERIFIED BY CONTRACTOR. CONTRACTOR TO INSTALL ADDITIONAL IRRIGATION, AS NEEDED, TO PROVIDE ADEQUATE COVERAGE, AT NO ADDITIONAL COST TO THE OWNER.
2. ALL LOCAL CODES AND ORDINANCES SHALL BE COMPLIED WITH. IF THERE IS A CONFLICT, THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IN WRITING.
3. A MINIMUM OF TWO WORKING DAYS PRIOR TO PERFORMING ANY DIGGING, CALL UNDERGROUND SERVICE ALERT AT 1-800-642-2444 FOR INFORMATION ON THE LOCATION OF UNDERGROUND UTILITIES.
4. THE IRRIGATION SYSTEM IS DESIGNED TO OPERATE WITH A MINIMUM STATIC WATER PRESSURE OF XXXX PSI AT THE POINT OF CONNECTION. THE CONTRACTOR SHALL VERIFY THE POINT OF CONNECTION PRESSURE ON-SITE PRIOR TO INSTALLATION OF ANY IRRIGATION WORK. IF THERE IS A DISCREPANCY, THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IN WRITING SO ADJUSTMENTS CAN BE MADE. CONTRACTOR SHALL NOT PROCEED ANY FURTHER WITH INSTALLATION OF THE SYSTEM UNTIL NECESSARY DESIGN REVISIONS HAVE BEEN DETERMINED BY THE OWNER.
5. THE IRRIGATION SYSTEM MAXIMUM FLOW RATE IS 130 GPM. THE CONTRACTOR SHALL PROGRAM THE AUTOMATIC CONTROLLER ACCORDING TO IRRIGATION WATERING SCHEDULE PROVIDED TO ALLOW FOR MULTIPLE VALVES TO RUN SIMULTANEOUSLY AND NOT EXCEED THE MAXIMUM FLOW RATE. ALL PLANT MATERIAL SHALL BE KEPT IN A HEALTHY, GROWING CONDITION WHILE MINIMIZING RUN-OFF OR EXCESSIVE WATERING.
6. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS OR DIFFERENCES IN DIMENSIONS EXIST THAT MIGHT HAVE BEEN UNKNOWN DURING ENGINEERING. SUCH OBSTRUCTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER IMMEDIATELY. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY, AT NO ADDITIONAL COST TO OWNER.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE LOCATION OF ANY UNDERGROUND UTILITIES, GRADE DIFFERENCES, WALL, RETAINING WALLS, AND STRUCTURES. DAMAGE CAUSED BY THE CONTRACTOR'S INSTALLATION SHALL BE REPAIRED TO THE SATISFACTION OF THE GOVERNING AGENCY AND/OR OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS OF SUCH REPAIRS.
8. INSTALL ALL PIPE AND CONTROL WIRES IN LANDSCAPE BEDS AND IN COMMON TRENCHES WHEREVER POSSIBLE. 120 VAC ELECTRICAL POWER SOURCE AT CONTROLLER LOCATION SHALL BE PROVIDED BY OTHERS. THE LANDSCAPE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE ELECTRICAL CONTRACTOR TO ASSURE IRRIGATION SYSTEM IS FULLY FUNCTIONING BEFORE PLANTING COMMENCES. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE THE FINAL CONNECTION FROM THE ELECTRICAL SOURCE TO THE CONTROLLER.
9. ALL PIPING AND CONTROL WIRES UNDER PAVING SHALL BE INSTALLED IN SEPARATE SCHEDULE 40 SLEEVES. ALL STREET CROSSINGS SHALL HAVE A MINIMUM OF TWO (2) SLEEVES. ALL WIRING UNDER PAVEMENTS SHALL BE INSTALLED IN PVC SCHEDULE 40 CONDUIT. ALL SLEEVES SHALL EXTEND TWELVE INCHES (12") BEYOND EDGE OF PAVEMENT AND/OR CURBS. ALL SLEEVES AND CONDUIT SHALL BE INSTALLED PRIOR TO THE PLACEMENT OF BASE MATERIALS AND PAVING. INSTALL SLEEVES AS NECESSARY OR AS REQUIRED PER PLANS. BACKFILL FOR SLEEVES SHALL BE COMPACTED TO THE SPECIFIED DENSITY FOR THE SUBGRADE.
10. SLEEVES:
    A. INSIDE DIAMETER OF SLEEVE SHALL BE A MINIMUM OF TWO (2) TIMES THE OUTER DIAMETER OF THE PIPE BEING SLEEVED.
    B. ALL CONTROL WIRE SLEEVES SHALL BE OF SUFFICIENT SIZE FOR THE REQUIRED NUMBER OF WIRES.
    C. CONTRACTOR IS RESPONSIBLE FOR COORDINATING PAVING INSTALLATION FOR PROPER INSTALLATION OF SLEEVES.
    D. BACKFILL FOR SLEEVES SHALL BE COMPACTED TO SPECIFIED DENSITY FOR THE SUBGRADE.
11. THE CONTRACTOR SHALL LAY OUT ALL WORK PRIOR TO TRENCHING OPERATIONS TO DETERMINE IF MINOR MODIFICATIONS WILL BE REQUIRED. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL IRRIGATION MATERIALS, INCLUDING PIPE, WITH THE LANDSCAPE DRAWINGS TO AVOID INTERFERING WITH THE PLANTING OF TREES, SHRUBS, OR OTHER PLANTINGS.
12. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES SO PROGRESS OF WORK IS NOT INTERRUPTED AND CAN BE COMPLETED IN A TIMELY MANNER.
13. HYDROSTATIC TESTING (PRIOR TO OPERATION): PIPING SHALL BE COMPLETELY FLUSHED OF FOREIGN PARTICLES BEFORE ATTACHING IRRIGATION COMPONENTS. AFTER FLUSHING, AND WHEN ALL VALVES AND QUICK COUPLERS ARE IN PLACE, ALL MAIN SUPPLY LINES SHALL BE TESTED AT 50 PSI ABOVE NORMAL OPERATING PRESSURE OR AT 160 POUNDS PER SQUARE INCH (160 PSI) WITH VALVES CLOSED. MAINTAIN PRESSURE FOR A PERIOD OF NOT LESS THAN FOUR (4) CONSECUTIVE HOURS. ALL JOINTS SHOWING LEAKS SHALL BE CLEANED, REMADE, AND TESTED.
14. OPERATIONAL TESTING: PERFORM OPERATIONAL TESTING AFTER HYDROSTATIC TESTING IS COMPLETED. DEMONSTRATE TO THE OWNER THAT THE SYSTEM MEETS COVERAGE REQUIREMENTS (100%) AND THAT AUTOMATIC CONTROLS FUNCTION PROPERLY.
15. MAINTAIN A MINIMUM CLEARANCE OF FIVE FEET BETWEEN ALL MAIN LINES AND TREES.
16. ALL PIPING, RCV'S AND QCV'S SHALL BE INSTALLED IN PLANTING AREAS (PIPING MAY PASS UNDER PAVING AS REQUIRED). RCV'S AND QCV'S SHALL BE INSTALLED ADJACENT TO WALKWAYS OR PAVING.
17. SEE IRRIGATION DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
18. ALL IRRIGATION EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
19. ALL ELECTRICAL WIRE FROM CONTROLLER TO VALVES SHALL BE 14 GAUGE UL DIRECT BURIAL OR LARGER AS REQUIRED BY LENGTH PER MANUFACTURER'S SPECIFICATIONS.
20. CHECK VALVES SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS TO ELIMINATE LOW HEAD DRAINAGE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY ELEVATION CHANGE AND INSTALL IN-LINE CHECK VALVES AS NECESSARY WHERE CHANGE IN ELEVATION EXCEEDS THE MANUFACTURER'S PRODUCT SPECIFICATIONS.
21. THE ANNUAL MAINTENANCE PROGRAM WITH SEASONAL WATERING SCHEDULE SHALL BE LAMINATED AND PERMANENTLY POSTED IN OR NEAR THE CONTROL BOX ON SITE.
22. INSTALLATION AND PERFORMANCE OF APPROVED SUBSTITUTIONS ARE THE CONTRACTOR'S RESPONSIBILITY. ANY CHANGES REQUIRED FOR INSTALLATION OF ANY APPROVED SUBSTITUTION MUST BE MADE TO THE SATISFACTION OF THE OWNER WITHOUT ADDITIONAL COST TO OWNER.
23. CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE THE IRRIGATION SYSTEM FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE. MANUFACTURER WARRANTIES SHALL NOT SUPERSEDE THIS GUARANTEE AS CONTRACTOR SHALL BE FULLY LIABLE FOR REPAIRS/REPLACEMENT OF FAILED MATERIALS/WORKMANSHIP.
24. IRRIGATION WATER METER IS INSTALLED PER CIVIL IMPROVEMENT PLANS.
25. THE PRECISE LOCATION OF THE IRRIGATION CONTROLLER AND BOOSTER PUMP SHALL BE DETERMINED BY THE CITY'S REPRESENTATIVE.
26. CONSTANTLY PRESSURIZED RECYCLED WATER MAINS SHALL BE LOCATED A MINIMUM OF 10 FEET HORIZONTALLY AWAY FROM POTABLE WATER LINES AND MUST ALSO CROSS UNDER POTABLE LINES WITH A MINIMUM OF 12" VERTICAL SEPARATION (OD TO OD).
27. CONTRACTOR TO INCLUDE TWO (2) SPARE CONTROL WIRES, YELLOW IN COLOR, TO RUN CONTINUOUS THROUGH THE ENTIRE SYSTEM.

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
	HUNTER MP1000 PROS-06-PRS40-CV-F TURF ROTATOR, 6" POP-UP WITH CHECK VALVE, FLOGUARD, PRESSURE REGULATED TO 40 PSI, MP ROTATOR NOZZLE ON PRS40 BODY. M=MAROON ADJ ARC 90 TO 210, L=LIGHT BLUE 210 TO 270 ARC, O=OLIVE 360 ARC.	13	40
	HUNTER MP2000 PROS-06-PRS40-CV-F TURF ROTATOR, 6" POP-UP WITH FACTORY INSTALLED CHECK VALVE, FLOGUARD, PRESSURE REGULATED TO 40 PSI, MP ROTATOR NOZZLE ON PRS40 BODY. K=BLACK ADJ ARC 90-210, G=GREEN ADJ ARC 210-270, R=RED 360 ARC.	17	40
	HUNTER MP3000 PROS-06-PRS40-CV-F TURF ROTATOR, 6" POP-UP WITH FACTORY INSTALLED CHECK VALVE, FLOGUARD, PRESSURE REGULATED TO 40 PSI, MP ROTATOR NOZZLE ON PRS40 BODY. B=BLUE ADJ ARC 90-210, Y=YELLOW ADJ ARC 210-270, A=GRAY 360 ARC.	5	40
800 A 800 F	HUNTER MP800SR PROS-06-PRS40-CV-F-R TURF ROTATOR, 6" POP-UP WITH CHECK VALVE, FLOGUARD, PRESSURE REGULATED TO 40 PSI, WITH RECLAIMED BODY CAP, MP ROTATOR NOZZLE ON PRS40 BODY. ADJ=ORANGE AND GRAY (ARC 90-210), 360=LIME GREEN AND GRAY (ARC 360)	3	40
	HUNTER MP815 PROS-06-PRS40-CV-F-R TURF ROTATOR, 6" POP-UP WITH CHECK VALVE, FLOGUARD, PRESSURE REGULATED TO 40 PSI, WITH RECLAIMED BODY CAP, MP ROTATOR NOZZLE ON PRS40 BODY. M=MAROON AND GRAY ADJ ARC 90 TO 210, L=LIGHT BLUE AND GRAY 210 TO 270 ARC, O=OLIVE AND GRAY 360 ARC.	68	40
0.25 0.50	HUNTER RZWS-SLEEVE-18-CV-R 18IN. LONG RZWS WITH FILTER FABRIC SLEEVE, .25 GPM OR .50 GPM BUBBLER OPTIONS, CHECK VALVE, 1/2IN. SWING JOINT FOR CONNECTION TO 1/2IN. PIPE WITH RECLAIMED CAP.	186	30
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
15	HUNTER I-40-06-SS-HS-R 15 TURF ROTOR, 6IN. POP-UP. ADJUSTABLE TO FULL CIRCLE. DRAIN CHECK VALVE, STAINLESS STEEL RISER, 1IN. FEMALE NPT INLET THREADS, HIGH SPEED NOZZLE. WITH PURPLE COVER FOR RECLAIMED WATER ID.	3	60
10	HUNTER I-40-06-SS-R 10 TURF ROTOR, 6IN. POP-UP. ADJUSTABLE TO FULL CIRCLE. DRAIN CHECK VALVE, STAINLESS STEEL RISER, 1IN. FEMALE NPT INLET THREADS, STANDARD NOZZLE WITH PURPLE CAP.	4	60
13	HUNTER I-40-06-SS-R 13 TURF ROTOR, 6IN. POP-UP. ADJUSTABLE TO FULL CIRCLE. DRAIN CHECK VALVE, STAINLESS STEEL RISER, 1IN. FEMALE NPT INLET THREADS, STANDARD NOZZLE WITH PURPLE CAP.	7	60
15	HUNTER I-40-06-SS-R 15 TURF ROTOR, 6IN. POP-UP. ADJUSTABLE TO FULL CIRCLE. DRAIN CHECK VALVE, STAINLESS STEEL RISER, 1IN. FEMALE NPT INLET THREADS, STANDARD NOZZLE WITH PURPLE CAP.	22	60
23	HUNTER I-40-06-SS-R 23 TURF ROTOR, 6IN. POP-UP. ADJUSTABLE TO FULL CIRCLE. DRAIN CHECK VALVE, STAINLESS STEEL RISER, 1IN. FEMALE NPT INLET THREADS, STANDARD NOZZLE WITH PURPLE CAP.	23	60
25	HUNTER I-40-06-SS-R 25 TURF ROTOR, 6IN. POP-UP. ADJUSTABLE TO FULL CIRCLE. DRAIN CHECK VALVE, STAINLESS STEEL RISER, 1IN. FEMALE NPT INLET THREADS, STANDARD NOZZLE WITH PURPLE CAP.	6	60

IRRIGATION SCHEDULE CONTINUED

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	HUNTER ICZ-101-LF-R-40 DRIP CONTROL ZONE KIT. 1IN. ICV GLOBE VALVE WITH 1IN. HY100 FILTER SYSTEM & PVC BALL VALVE. PRESSURE REGULATION: 40PSI. FLOW RANGE: .5 GPM - 15 GPM. 150 MESH STAINLESS STEEL SCREEN. RECLAIMED PURPLE FILTER COVER AND HANDLE.	3
	HUNTER ICZ-151-XL-R-40 DRIP CONTROL ZONE KIT. 1-1/2IN. ICV GLOBE VALVE WITH 1IN. HY100 FILTER SYSTEM & PVC BALL VALVE. PRESSURE REGULATION: 40PSI. FLOW RANGE: 20 GPM TO 60 GPM. 120 MESH STAINLESS STEEL SCREEN. 1-1/2IN. INLET X SINGLE 2IN. OUTLET. WITH RECLAIMED WATER HANDLE.	3
	PIPE TRANSITION POINT PIPE TRANSITION POINT FROM PVC LATERAL TO DRIP TUBING WITH RISER	20
	MANUAL FLUSH VALVE MANUAL FLUSH VALVE WITH PURPLE HANDLE AND BARBED INSERTS. INSTALL IN 10" ROUND PURPLE VALVE BOX PER CITY STANDARD DETAIL.	24
DI	HUNTER ECO-ID-12-R ECO-ID: 1/2IN. FPT CONNECTION WITH 15 PSI - 100 PSI OPERATING PRESSURE. SPECIFY WITH HUNTER SJ SWING JOINT. RECLAIMED.	4
	AREA TO RECEIVE DRIPLINE NETAFIM TLHCVXR-RW-053-18 TECHLINE HCVXR-CS PRESSURE COMPENSATING LANDSCAPE DRIPLINE WITH COPPER STRIPE, CHECK VALVE AND ANTI-SIPHON FEATURE. 0.53 GPH EMITTERS AT 18" O.C. DRIPLINE LATERALS SPACED AT 18" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. 17MM.	29,776 S.F.
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	EXISTING VALVE EXISTING VALVE TO REMAIN, PROTECT IN PLACE. MODIFY WIRING AS NEEDED TO ACCOMMODATE NEW IRRIGATION CONTROLLER CONNECTION.	3
	HUNTER IBV-FS-R BRASS ELECTRIC REMOTE CONTROL VALVE, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET W/FILTER SENTRY FACTORY INSTALLED OPTION. RECLAIMED WATER ID PURPLE TAG.	29
	HUNTER HQ-5LRC-R QUICK COUPLER VALVE, PURPLE LOCKING RUBBER COVER FOR RECLAIMED WATER USE, RED BRASS AND STAINLESS STEEL, WITH 1IN. NPT INLET, 1-PIECE BODY.	14
	NIBCO T-113-K CLASS 125 BRONZE GATE SHUT OFF VALVE WITH CROSS HANDLE, SAME SIZE AS MAINLINE PIPE DIAMETER AT VALVE LOCATION.	20
MV	BUCKNER-SUPERIOR 3200 3" NORMALLY CLOSED BRASS MASTER VALVE THAT PROVIDES DIRTY WATER PROTECTION AND NO MINIMUM FLOW FEATURE, WHICH ENSURES RELIABLE OPENING AND CLOSING OF THE VALVE IN EXTREME HIGH OR LOW FLOW SCENARIOS.	1
CC	IRRIGATION CONTROLLER SA6-RM6-56-DXICA-PMR-CAC-FAN-16-GR-K - RAIN MASTER CENTRAL CONTROL W/TOP ENTRY STAINLESS STEEL PEDESTAL, CELLULAR MODEM W/ANTENNA-INCLUDES 10 YRS. LTE CELLULAR SERVICE, PROMAX REMOTE RECEIVER KIT, THERMOSTATICALLY CONTROLLED FAN TO MAINTAIN DESIRED ENCLOSURE TEMPERATURE, & GROUND ROD THAT INCLUDES 8' GROUND ROD, CLAMP & 15' OF #6 GAUGE BARE COPPER WIRE.	1
FS	CREATIVE SENSOR TECHNOLOGY FSI-T20-001 2IN. PVC TEE TYPE FLOW SENSOR W/SOCKET ENDS, CUSTOM MOUNTING TEE AND ULTRA-LIGHTWEIGHT IMPELLER ENHANCES LOW FLOW MEASUREMENT. FLOW RANGE 10.6 LPM|2.8 GPM - 170 GPM.	1
BP	BOOSTER PUMP 130 GPM MAX, XX PSI INCREASE. V-POWER EQUIPMENT (916) 266-6743.	1
X X X	CAP FOR FUTURE USE CAP AND STUB UP MAINLINE AND 12 CONTROL WIRES FOR FUTURE USE IN VALVE BOX. THE ESTIMATED PRESSURE AND FLOW PROVIDED TO THAT LOCATION ARE INDICATED NEXT TO THE CAP SYMBOL.	1
POC	POINT OF CONNECTION ESTIMATE BEFORE PUMP MANUFACTURER GIVES THE PRECISE BOOST FOR THE PARK.	1
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21	11,167 L.F.
	IRRIGATION MAINLINE: PVC SCHEDULE 40-NP 3/4" TO 1-1/2"	601.8 L.F.
	IRRIGATION MAINLINE: PVC CLASS 315 SDR 13.5-NP 2" TO 4"	319.7 L.F.
	IRRIGATION MAINLINE: PVC CLASS 315 SDR 13.5-NP MAINLINE LOOP 3" MINIMUM	1,763 L.F.
	IRRIGATION MAINLINE: EXISTING PVC SCHEDULE 40 EXISTING 1-1/2" MAINLINE	196.7 L.F.
X"	PIPE SLEEVE: PVC SCHEDULE 40 PIPE SLEEVE SIZE SHALL BE 2X THE DIAMETER OF ALL PIPE AND WIRING BEING SLEEVED. EXTEND SLEEVES 12 INCHES BEYOND EDGES OF PAVING OR CONSTRUCTION.	291.1 L.F.

IRRIGATION KEYNOTES

CODE	DESCRIPTION
I-01	IRRIGATION EQUIPMENT/PIPING SHOWN IN CONCRETE FOR CLARITY ONLY. LOCATE PIPE AND EQUIPMENT IN PLANTER AREA AT BACK OF WALK. ARROW INDICATES DIRECTION TO LOCATE PIPE.
I-02	POINT OF CONNECTION 3" MAINLINE LOOPED SYSTEM MIN. STATIC WATER PRESSURE: 0 PSI DESIGN PRESSURE: XX PSI MAXIMUM FLOW: 130 GPM BOOSTER PUMP INCREASE: XX PSI
I-03	REPLACE EXISTING VALVE WITH NEW CONTROL VALVE. CONNECT EXISTING PIPE TO SPRAY SYSTEM TO NEW VALVE. REPLACE VALVE BOX, GRAVEL, ETC. PER DETAIL. CLEAR DIRT AND DEBRIS IN LATERAL LINE BEFORE CONNECTING NEW VALVE AND ENSURE EXISTING SPRAY HEADS ARE IN WORKING CONDITION. NOTIFY OWNER IF SYSTEM IS NOT FUNCTIONAL.
I-04	EXISTING IRRIGATION TO REMAIN, PROTECT-IN-PLACE. ENSURE EXISTING IRRIGATION SPRAY HEAD SYSTEM CREATE 100% COVERAGE. MOVE/REPLACE SPRAY HEADS IN EXISTING SYSTEM IN LIKE-KIND IF OVER OR UNDER COVERAGE OCCURS.

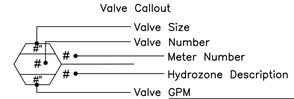
CRITICAL ANALYSIS

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P.O.C. NUMBER: 01
Water Source Information: Estimate before pump manufacturer gives the precise boost for the park.

FLOW AVAILABLE	
Custom Max Flow:	130 GPM
Flow Available	130 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	0 PSI
Booster Pump pressure provided:	100 PSI
Pressure Available:	100 PSI
DESIGN ANALYSIS	
Maximum Multi-valve Flow:	87 GPM
Flow Available at POC:	130 GPM
Residual Flow Available:	43 GPM
Critical Station:	11
Design Pressure:	60 PSI
Friction Loss:	3.68 PSI
Fittings Loss:	0.37 PSI
Elevation Loss:	0 PSI
Loss through Valve:	2.99 PSI
Pressure Req. at Critical Station:	67.0 PSI
Loss for Fittings:	0.3 PSI
Loss for Main Line:	2.96 PSI
Loss for POC to Valve Elevation:	0 PSI
Loss for Backflow:	0 PSI
Loss for Master Valve:	2.38 PSI
Critical Station Pressure at POC:	72.7 PSI
Pressure Available:	100 PSI
Residual Pressure Available:	27.3 PSI

Valve Callout



☒ I HAVE COMPLIED WITH THE CRITERIA OF THE MWELO ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN.

LANDSCAPE ARCHITECT DATE

DRIP INSTALLATION NOTES:
1. INSTALL PVC PIPE OR RAIN BIRD QR DRIPLINE HEADER (3/4" OR 1") PERPENDICULAR SUPPLY LINES EVERY 50' O.C. FROM VALVE TO END(S) OF EACH DRIP ZONE.
2. INSTALL PVC PIPE OR RAIN BIRD QR DRIPLINE HEADER AS A FOOTER OR EXHAUST HEADER AT THE END(S) OF EACH DRIP ZONE.

SEE DRAWING L1504 FOR WATER USE CALCULATIONS AND IRRIGATION SCHEDULES

SEE DRAWING L1501-L1503 FOR IRRIGATION DETAILS

SEE DRAWING CV001 FOR GENERAL NOTES

811 Know what's below. Call before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK (LI9300002)
IRRIGATION PLAN

DESIGN BY: Stantec
DATE 05.01.2023
SCALE 1" = 30'-0"
P. N. L19-3000-02
REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
LI101 of XX

MATCHLINE SEE SHEET LI101

BRIDGE RD

AUBURN BLVD.

EXISTING PLAYGROUND

EXISTING PARKING

SLEEVE FOR WIRES

ROUTE NEW MAINLINE & WIRE THROUGH EXISTING LANDSCAPE AVOIDING THE DRIPLINE OF EXISTING TREES. SEE TREE PROTECTION NOTES.

PROVIDE 12 ADDITIONAL WIRES TO THIS LOCATION FOR FUTURE USE

60GPM 80PSI

EXISTING 1" DOMESTIC WATER METER & BACKFLOW PREVENTER TO BE DISCONNECTED FROM PARKING LOT IRRIGATION AND USED FOR NEW DRINKING FOUNTAIN

SEE DRAWING CV001 FOR GENERAL NOTES

SEE DRAWING LI501 AND LI502 FOR IRRIGATION DETAILS

SEE DRAWING LI504 FOR WATER USE CALCULATIONS AND IRRIGATION SCHEDULES

SEE DRAWING LI101 FOR IRRIGATION LEGEND AND NOTES

0 30' 45' 60'
SCALE: 1"=30'-0"

811
Know what's **below.** **Call** before you dig.

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
IRRIGATION PLAN

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO
Youth, Parks, & Community Enrichment

DESIGN BY: Stantec

DATE 05.01.2023

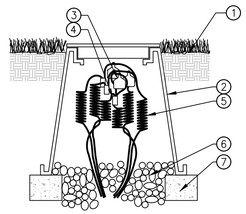
SCALE 1" = 30'-0"

P. N. LI9-3000-02

REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

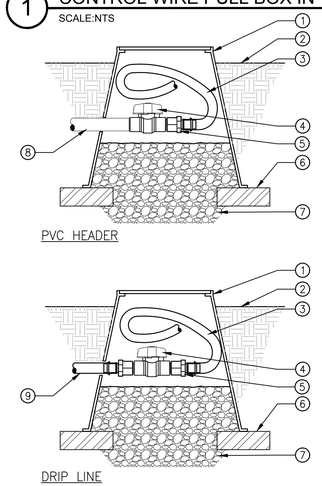
SHEET NO.
LI102 of XX



1. FINISHED GRADE.
2. PLASTIC 7" ROUND VALVE BOX FOR LESS THAN EIGHT (8) WIRES. PLASTIC 12"x17" VALVE BOX FOR MORE THAN EIGHT (8) WIRES. HEAT BRAND "P.B." ON COVER.
3. VALVE ID TAG (TYP.)
4. WATERPROOF CONNECTORS (TYP.)
5. 12" PIGTAIL (MIN.) EACH SIDE OF WATERPROOF CONNECTOR
6. 3/8" PEA GRAVEL 1 CU.FT.
7. STANDARD BRICKS, 4 TOTAL

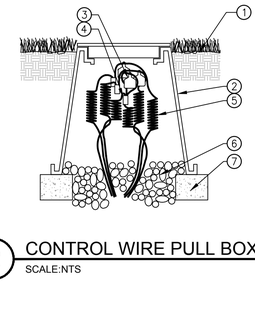
1 CONTROL WIRE PULL BOX IN VALVE BOX

SCALE:NTS



1. 10" ROUND PLASTIC VALVE BOX WITH COVER.
2. FINISH GRADE.
3. 1/2" IPS FLEX HOSE COIL, 24" TO 30" AS REQUIRED TO REMOVE END FOR FLUSHING.
4. PVC BALL VALVE.
5. MALE THREADED COUPLER TO BARBED ADAPTER.
6. STANDARD BRICK, LOCATE IN 3 PLACES.
7. 12" DEPTH OF 3/4" DIA. DRAIN ROCK. PLACE ROCK PRIOR TO PLACING VALVE BOX.
8. PVC HEADER.
9. DRIP TUBE.

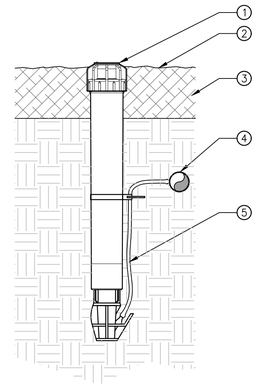
NOTES:
INSTALL FLUSH VALVE(S) AT ALL END POINTS OF EACH DRIP ZONE.



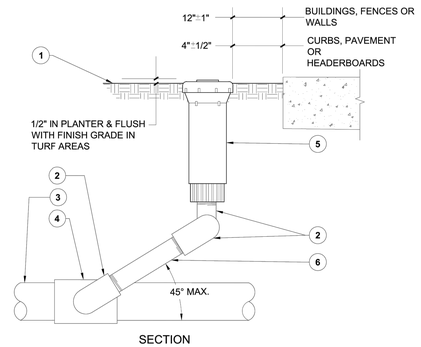
1. FINISHED GRADE.
2. 11"x17" CONCRETE ELECTRICAL PULL BOX.
3. VALVE ID TAG (TYP.)
4. WATERPROOF CONNECTORS (TYP.)
5. 12" PIGTAIL (MIN.) EACH SIDE OF WATERPROOF CONNECTOR
6. 3/8" PEA GRAVEL 1 CU.FT.
7. STANDARD BRICKS, 4 TOTAL

2 CONTROL WIRE PULL BOX

SCALE:NTS



1. DRIP OPERATION INDICATOR, SEE IRRIGATION LEGEND.
2. TOP OF MULCH.
3. MULCH.
4. SUB-SURFACE DRIPLINE.
5. 1/4" DRIP DISTRIBUTION TUBE WITH BARB FITTING.



SECTION

CALLOUTS

1. FINISH GRADE.
2. MARLEX STREET ELLS.
3. IRRIGATION LATERAL.
4. PVC SCHEDULE 40, 90 DEGREE ELL (SxT) OR TEE (SxSxT)
5. POP-UP SPRAY HEAD.
6. PVC SCHEDULE 40 NIPPLE. (LENGTH AS REQUIRED).

NOTE

SPRAY HEADS LOCCATED ADJACENT TO ROADWAYS AND PARKING LOTS SHALL BE LOCATED 24" FROM EDGE OF HARDSCAPE.
SCH 40 FITTINGS TYP.

REV.	DATE	DESCRIPTION
1		
2		
3		

CITY OF SACRAMENTO
Department of Youth, Parks and Community Enrichment

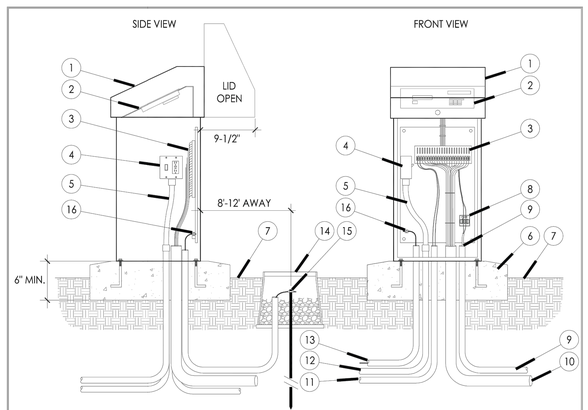
SPRAY HEAD

APPR'D BY:_____ NO SCALE
DATE:JANUARY 2020 DWG. NO. L-806

3 MANUAL FLUSH VALVE

SCALE:NTS SECTION

PROJ-DEL-29



1. STRONGBOX STAINLESS STEEL NEMA 3R RAINPROOF ENCLOSURE (UL LISTED).
2. SATELLITE ASSEMBLY. ASSEMBLED IN ENCLOSURE BY SITEONE GREEN TECH.
3. TERMINAL STRIP FOR VALVE WIRES.
4. POWER SWITCH / GFCI RECEPTACLE.
5. ELECTRICAL FLEX CONDUIT FOR POWER.
6. 6" MIN THICK. CONCRETE PAD WITH ANCHOR BOLTS PER MANUFACTURER RECOMMENDATIONS.
7. FINISHED GRADE.
8. FLOW SENSOR TERMINAL BOARD.
9. 1" CONDUIT AND SWEEP ELL WITH FLOW SENSOR CABLE.
10. 3" CONDUIT AND SWEEP ELL FOR LEAD WIRES.
11. 1" CONDUIT AND SWEEP ELL FOR MASTER VALVE WIRES.
12. 1" CONDUIT AND SWEEP ELL FOR 110 VAC POWER LINE.
13. 1" CONDUIT AND SWEEP ELL FOR GROUND WIRE.
14. 10" ROUND VALVE BOX AROUND GROUND ROD. FILL WITH 3/4" CRUSHED ROCK.
15. 5/8" X 8' GROUND ROD WITH #6 GROUND WIRE AND CLAMP. LOCATE 8'-12' FROM ENCLOSURE.
16. #6 GROUND WIRE SECURED TO BACKBOARD GROUNDING TERMINAL.

NOTE: SEE IRRIGATION LEGEND CALL OUT FOR INCLUDED SATELLITE COMMUNICATION COMPONENTS.
SUGGESTED CONDUIT SIZES MAY NEED TO BE LARGER.

SA6 - STRONGBOX: SB-16SS (16"W x 38"H x 15.5"D)
TOP ENTRY ENCLOSURE - CONCRETE PAD

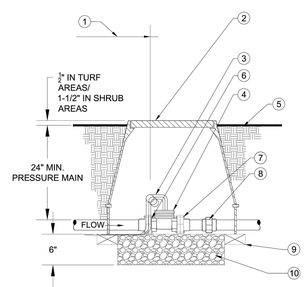
6 SATELLITE ASSEMBLY (SA SERIES)

SiteOne Green Tech
TEL: (800) 427-0773
FAX: (866) 477-9873
www.greentech.siteone.com

4 DRIP OPERATION INDICATOR

SCALE:NTS SECTION

PROJ-DEL-28



CALL OUTS

1. REDUCE BENDS, FITTINGS, ETC. FOR A DISTANCE EQUAL TO 10X THE DIA. OF THE PIPE. SIMILAR ON BOTH SIDES OF SENSOR
2. PLASTIC VALVE BOX WITH BOLT DOWN COVER AND BOX EXTENSION IF REQUIRED. REFER TO SPECIFICATIONS.
3. PIGTAIL EXPANSION LOOP (18" MIN. LOOP)
4. FLOW SENSOR
5. FINISH GRADE
6. COMMUNICATION CABLE. RETURN TO CONTROLLER IN 1" GREY SCH. 40 PVC CONDUIT
7. SCH. 80 PVC FLANGES TYP. (2) PLACE
8. SCH. 80 PVC UNION DOWNSTREAM OF VALVE
9. BRICK OR CINDER BLOCK TYP. (2) PLACES
10. PLACE 3/4" DIA DRAIN ROCK AT BASE OF VALVE BOX PRIOR TO INSTALLATION.

NOTES:

1. INSTALL FLOW SENSOR A MINIMUM OF 12" FROM ANY STRUCTURES OR HARDSCAPE.
2. INSTALL FLOW SENSOR IN PLANTING BEDS WHEREVER POSSIBLE
3. PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPES.
4. INSTALL VALVE BOX SO THAT TOP OF VALVE BOX IS FLUSH WITH FINISH GRADE OF ADJACENT HARDSCAPING.

REV.	DATE	DESCRIPTION
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CITY OF SACRAMENTO
Department of Youth, Parks and Community Enrichment

SINGLE FLOW SENSOR

APPR'D BY:_____ NO SCALE
DATE:JANUARY 2020 DWG. NO. L-804

7 SINGLE FLOW SENSOR

SCALE:NTS

CSTD-SACTO-12

5 SPRAY HEAD

SCALE:NTS

CSTD-SACTO-11

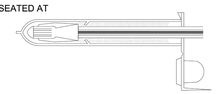
STEP 1: STRIP WIRES 1/2" FROM ENDS.



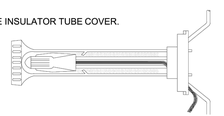
STEP 2: APPLY SCOTCHLOK SPRING CONNECTOR IN A CLOCKWISE DIRECTION.



STEP 3: INSERT SPLICE TO BOTTOM OF GEL-FILLED TUBE. CHECK TO MAKE SURE CONNECTOR HAS BEEN PUSHED PAST LOCKING FINGERS AND IS SEATED AT BOTTOM OF TUBE.



STEP 4: POSITION WIRES IN WIRE CHANNELS AND CLOSE INSULATOR TUBE COVER.



REV.	DATE	DESCRIPTION
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CITY OF SACRAMENTO
Department of Youth, Parks and Community Enrichment

WIRE CONNECTION

APPR'D BY:_____ NO SCALE
DATE:JANUARY 2020 DWG. NO. L-809

8 WIRE CONNECTION

SCALE:NTS

CSTD-SACTO-18

811 Know what's below. Call before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO
Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK (LI9300002)

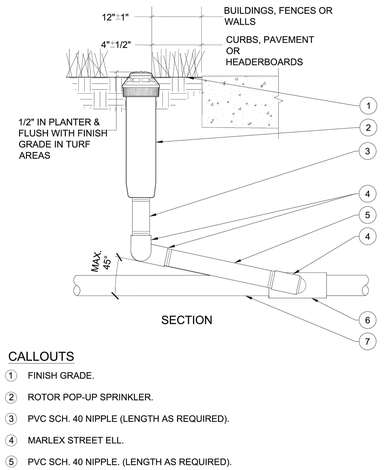
IRRIGATION DETAILS

DESIGN BY: Stantec
DATE 05.01.2023
SCALE 1" = 30'-0"
P. N. LI9-3000-02

REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
LI501 of XX



SECTION

CALLOUTS

1. FINISH GRADE.
2. ROTOR POP-UP SPRINKLER.
3. PVC SCH. 40 NIPPLE (LENGTH AS REQUIRED).
4. MARLEX STREET ELL.
5. PVC SCH. 40 NIPPLE. (LENGTH AS REQUIRED).
6. PVC SCH. 40 TEE OR ELL.
7. PVC LATERAL PIPE.

NOTE

SPRAY HEADS LOCATED ADJACENT TO ROADWAYS AND PARKING LOTS SHALL BE LOCATED 24" FROM EDGE OF HARDSCAPE.

REV.	DATE	DESCRIPTION
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CITY OF SACRAMENTO
Department of Youth, Parks and Community Enrichment

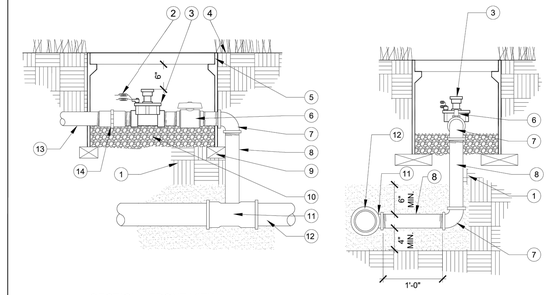
ROTOR

APPR'D BY:_____ NO SCALE
DATE:JANUARY 2020 DWG. NO. L-803

1 ROTOR

SCALE:NTS

CSTD-SACTO-10



SECTION - FRONT VIEW

SECTION - SIDE VIEW

KEYNOTES:

1. SOIL IN IRRIGATION MAIN AND LATERAL LINES SHALL BE COMPACTED IN 6" LIFT WITH EACH LIFT COMPACTED TO 85% R.D. IN LANDSCAPED AREAS AND 95% R.D. IN PAVING AREAS.
2. VALVE CONTROL WIRE PROVIDE "3M DBY" SEAL PACKS AT ALL SPLICES & 36" OF EXCESS UF WIRE IN A 1" DIA. COIL.
3. REMOTE CONTROL VALVE.
4. FINISH GRADE.
5. 13" X 20" JUMBO RECTANGULAR LOCKING VALVE BOX.
6. FULL PORT ¾ TURN PVC BALL VALVE.
7. SCH. 80 PVC 90 DEGREE ELL.
8. SCH. 80 PVC NIPPLE.
9. BRICK - 1 @ EA. CORNER.
10. ¾" DIA. DRAIN ROCK
11. SCH. 80 PVC TEE.
12. PVC MAIN LINE.
13. IRRIGATION SUPPLY LINE.
14. SCH. 80 UNION.

REV.	DATE	DESCRIPTION
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CITY OF SACRAMENTO
Department of Youth, Parks and Community Enrichment

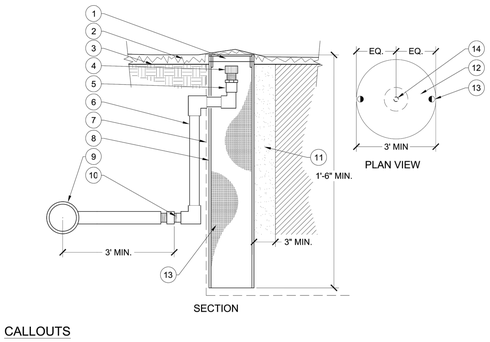
REMOTE CONTROL VALVE

APPR'D BY:_____ NO SCALE
DATE: JUNE 5, 2013 DWG. NO.

2 REMOTE CONTROL VALVE

SCALE:NTS

CSTD-SACTO-09



PLAN VIEW

SECTION

CALLOUTS

1. GRATED CAP
2. BARK MULCH.
3. FINISH GRADE.
4. BUBBLER HEAD.
5. CHECK VALVE (T X T)
6. SWING JOINT
7. TREE PIT WALL BUBBLER SLEEVE
8. PVC SCHEDULE 40 TEE (SXSXT) OR 90 DEGREE ELL (SXT), CONNECTED TO IRRIGATION LATERAL.
9. IRRIGATION LATERAL LINE
10. 1/2" PVC SCHEDULE 40 MALE ADAPTER.
11. ROOTBALL.
12. WATER BASIN
13. TREE BUBBLER (TWO PER TREE)
14. TREE TRUNK

REV.	DATE	DESCRIPTION
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CITY OF SACRAMENTO
Department of Youth, Parks and Community Enrichment

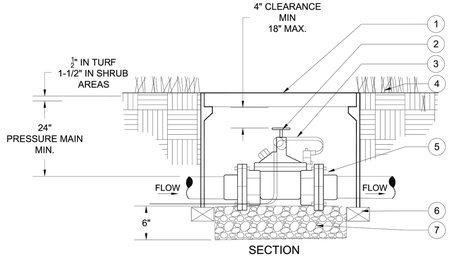
TREE BUBBLER

APPR'D BY:_____ NO SCALE
DATE:JANUARY 2020 DWG. NO. L-807

3 TREE BUBBLER

SCALE:NTS

CSTD-SACTO-14



SECTION

CALLOUTS

1. CONCRETE UTILITY BOX (12" X 20") WITH BOLT DOWN CAST IRON LID. BOX EXTENSION IF REQUIRED. (OLDCASTLE B12 B0X OR EQUAL)
2. MASTER CONTROL VALVE
3. CONTROL AND COMMON WIRES EXPANSION LOOP (18" MIN.)
4. FINISH GRADE
5. SCH 40 PVC FLANGES, (2) PLACES TYP.
6. BRICK, MINIMUM (2) PER BOX, TYP.
7. 3/4" DIAMETER DRAIN ROCK

NOTES

1. VALVE SHALL BE LINE SIZED UNLESS OTHERWISE NOTED.
2. INSTALL VALVES A MINIMUM OF12" FROM STRUCTURES OR HARDSCAPING.
3. INSTALL VALVES IN PLANTING BEDS WHEREVER POSSIBLE.
4. PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPING.
5. PLACE 3/4" DIA. DRAIN ROCK PRIOR TO INSTALLATION OF VALVE BOX.

REV.	DATE	DESCRIPTION
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CITY OF SACRAMENTO
Department of Youth, Parks and Community Enrichment

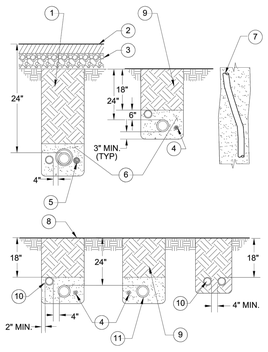
SINGLE MASTER VALVE

APPR'D BY:_____ NO SCALE
DATE:JANUARY 2020 DWG. NO. L-805

4 SINGLE MASTER VALVE

SCALE:NTS

CSTD-SACTO-13



KEYNOTES

1. 6" COMPACTED LIFTS 95% R.D. IN PAVING AREAS
2. HARDSCAPE MATERIAL
3. BASE MATERIAL
4. IRRIGATION CONTROL WIRES
5. IRRIGATION CONTROL WIRES IN CONDUIT UNDER PAVED AREAS
6. SAND BACKFILL IN ALL TRENCHES 6" UNDER MAIN LINE AND 6" ABOVE TOP OF MAINLINE.
7. SNAKE ALL PIPES IN TRENCHING
8. FINISH GRADE
9. EXCAVATED FILL COMPACTED IN 6" LIFTS AT 85% R.D. IN LANDSCAPE AREAS AND 95% R.D. IN PAVING AREAS
10. LATERAL PIPE (TYP)
11. IRRIGATION MAINLINE (TYP)

REV.	DATE	DESCRIPTION
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CITY OF SACRAMENTO
Department of Youth, Parks and Community Enrichment

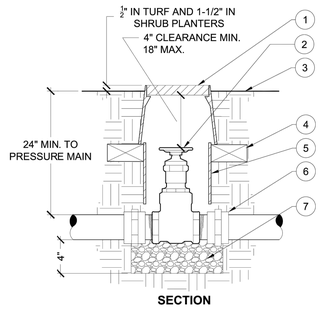
TRENCH

APPR'D BY:_____ NO SCALE
DATE:JANUARY 2020 DWG. NO.

5 TRENCH

SCALE:NTS

CSTD-SACTO-16



SECTION

CALLOUTS

1. 10" ROUND CONCRETE VALVE BOX AND COVER LABELED WATER, W/ BOX EXTENSIONS AS REQUIRED.
2. GATE VALVE BRONZE OR CAST IRON HANDWHEEL. SEE PLANS AND SPECIFICATIONS FOR MANUFACTURER AND MODEL NUMBER.
3. FINISH GRADE
4. BRICK, TYPICAL. (4) PLACES.
5. 10" DIAMETER SCHEDULE 40 PVC.
6. SCHEDULE 40 PVC UNION, TYPICAL. (2) PLACES.
7. ¾" DIA. DRAINAGE ROCK

NOTES

1. INSTALL GATE VALVES A MINIMUM OF 24" FROM STRUCTURES OR HARDSCAPE.
2. INSTALL GATE VALVES IN PLANTING BEDS WHEREVER POSSIBLE.
3. DOMESTIC GATE VALVES SHALL BE LEAD FREE ONLY.
4. VALVE SIZE SHALL BE EQUAL WITH THE MAINLINE SIZE UNLESS LABELED OTHERWISE.

REV.	DATE	DESCRIPTION
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CITY OF SACRAMENTO
Department of Youth, Parks and Community Enrichment

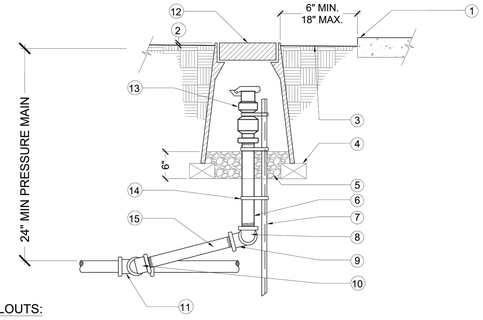
GATE VALVE 3" AND SMALLER

APPR'D BY:_____ NO SCALE
DATE:JANUARY 2020 DWG. NO. L-800

6 GATE VALVE 3" AND SMALLER

SCALE:NTS

CSTD-SACTO-06



CALLOUTS:

1. STRUCTURE OR PAVING
2. 1/2" ABOVE FINISH GRADE IN TURF AREAS, FLUSH WITH TOP OF PAVING IN PLANTING BEDS.
3. FINISH GRADE BEFORE PLANTING.
4. BRICK SUPPORT, TYPICAL (2) PLACES.
5. 3/4" MINUS DRAIN ROCK.
6. SCHEDULE 80 PVC THREADED NIPPLE, 12" LONG.
7. #5 REBAR ANGLE IRON, 36" LONG.
8. SCHEDULE 80 PVC 90 DEGREES 127 ELL (FIPTxMIPT).
9. SCHEDULE 80 PVC 90 DEGREES 127 ELL (FIPTxMIPT).
10. SCHEDULE 80 PVC 90 DEGREES 127 ELL (FIPTxMIPT).
11. SCHEDULE 80 PVC TEE (SLIPxSLIPxFIPT).
12. 10" ROUND PLASTIC VALVE BOX WITH LOCKING COVER.
13. QUICK COUPLING VALVE, SEE PLANS OR SPECS FOR MANUFACTURER AND MODEL NUMBER.
14. STAINLESS STEEL HOSE CLAMPS, MINIMUM OF (3) PLACES.
15. SCHEDULE 80 PVC THREADED NIPPLE, 12" LONG.

NOTES:

1. INSTALL QUICK COUPLING VALVES IN PLANTING BEDS WHEREVER POSSIBLE.
2. SEE PLAN & SPECIFICATIONS FOR MORE INFORMATION.
3. SIZE OF ASSEMBLY TO BE EQUAL TO THE FIPT OF THE QUICK COUPLER.

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CITY OF SACRAMENTO
Department of Youth, Parks and Community Enrichment

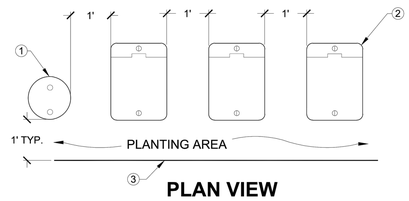
QUICK COUPLER

APPR'D BY:_____ NO SCALE
DATE:JANUARY 2020 DWG. NO. L-802

7 QUICK COUPLER

SCALE:NTS

CSTD-SACTO-08



PLAN VIEW

CALLOUTS

1. 10" ROUND LOCKING VALVE BOX
2. 13" X 20" JUMBO RECTANGLE LOCKING VALVE BOX
3. EDGE OF STRUCTURE, HARDSCAPE, ETC.

NOTES

1. CENTER BOXES OVER VALVES.
2. INSTALL BOXES IN PLANTER BED WHEREVER POSSIBLE.
3. SET BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE.
4. AVOID EXCESSIVE COMPACTION SOIL AROUND BOXES TO PREVENT DAMAGING VALVE BOXES.

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CITY OF SACRAMENTO
Department of Youth, Parks and Community Enrichment

VALVE BOX

APPR'D BY:_____ NO SCALE
DATE:JANUARY 2020 DWG. NO. L-808

8 VALVE BOX

SCALE:NTS

CSTD-SACTO-17

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO
Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
IRRIGATION DETAILS

DESIGN BY:
Stantec

DATE 05.01.2023

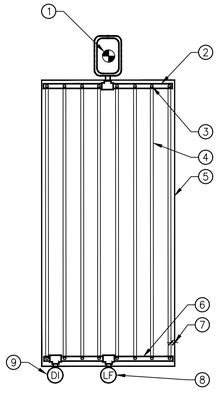
SCALE 1" = 30'-0"

P. N. L19-3000-02

REVISIONS

PRELIMINARY
NOT FOR CONSTRUCTION

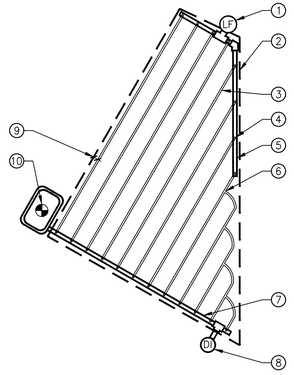
SHEET NO.
LI502 of XX



1. REMOTE CONTROL DRIP VALVE ASSEMBLY WITH FILTER.
2. PVC SUPPLY HEADER.
3. DRIPLINE START CONNECTION: MALE PVC ADAPTER.
4. DRIPLINE TUBING LATERAL, TYP.
5. AREA PERIMTER.
6. PVC EXHAUST HEADER.
7. PERIMETER LATERALS 2" TO 4" FROM EDGE (KEEP 24" FROM BOTTOM OF 5:1 OR STEEPER SLOPE)
8. LINE FLUSH VALVE PLUMBED TO PVC.
9. DRIP INDICATOR.

1 DRIPLINE - END FEED LAYOUT

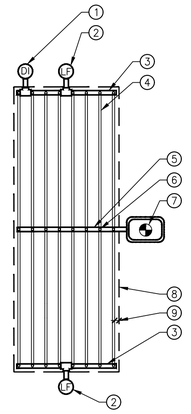
SCALE:NTS — PLAN — PROJ-DEL-88



1. LINE FLUSH VALVE PLUMBED TO PVC.
2. AREA PERIMETER.
3. DRIPLINE TUBING LATERAL.
4. DRIPLINE START CONNECTION: MALE PVC ADAPTER.
5. PVC EXHAUST HEADER.
6. DRIPLINE TEE.
7. PVC SUPPLY HEADER.
8. DRIP INDICATOR.
9. PERIMETER LATERALS 2" TO 4" FROM EDGE (KEEP 24" FROM BOTTOM OF 5:1 OR STEEPER SLOPE).
10. REMOTE CONTROL DRIP VALVE ASSEMBLY WITH FILTER.

2 DRIPLINE - TRIANGULAR LAYOUT

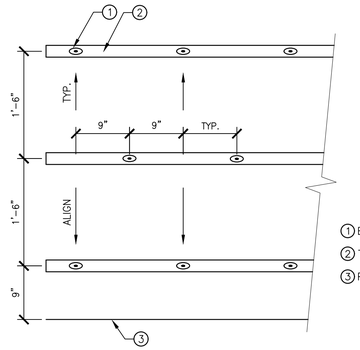
SCALE:NTS — PLAN — PROJ-DEL-92



1. DRIP INDICATOR.
2. LINE FLUSH VALVE PLUMBED TO PVC.
3. PVC EXHAUST HEADER.
4. DRIPLINE TUBING LATERAL, TYP.
5. PVC SUPPLY HEADER.
6. DRIPLINE START CONNECTION: MALE PVC ADAPTER.
7. REMOTE CONTROL DRIP VALVE ASSEMBLY WITH FILTER.
8. AREA PERIMETER.
9. PERIMETER LATERALS 2" TO 4" FROM EDGE (KEEP 24" FROM BOTTOM OF 5:1 OR STEEPER SLOPE)

3 DRIPLINE - MIDDLE FEED LAYOUT

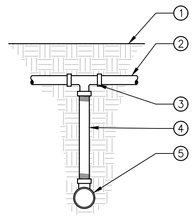
SCALE:NTS — PLAN — PROJ-DEL-90



1. EMITTER, TYP.
2. TUBING, TYP.
3. PAVING, WALL OR MOWBAND

4 DRIPLINE EMITTER & TUBE SPACING

SCALE:1" = 1'-0" — PLAN — PROJ-DEL-93

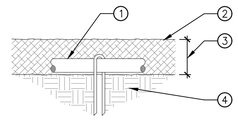


1. FINISH GRADE.
2. 1/2" DRIP LINE.
3. 180 2-WAY ADAPTER TEE.
4. 1/2" FLEX THREADED NIPPLE.
5. PVC LATERAL.

NOTES:
A. USE ONLY MANUFACTURER APPROVED FITTINGS.
B. REFER TO SPECS AND PLAN SHEETS FOR MORE INFORMATION.

5 DRIPLINE TO PVC CONNECTION

SCALE:NTS — SECTION — PROJ-DEL-80



1. DRIPLINE
2. TOP OF MULCH
3. MAINTAIN CONSISTENT ELEVATION
4. JUTE MESH STAPLE AT 4' O.C. OR AS NECESSARY TO SECURE TUBING

6 DRIPLINE STAPLING

SCALE:1 1/2" = 1'-0" — ELEVATION — IR-DRIP-16

Know what's below. Call before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO
Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
IRRIGATION DETAILS

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

DESIGN BY: Stantec
DATE 05.01.2023
SCALE 1" = 30'-0"
P. N. LI9-3000-02
REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
LI503 of XX

WATER EFFICIENT LANDSCAPE WORKSHEET

THE MAXIMUM APPLIED WATER ALLOWANCE (MAWA) SHALL BE CALCULATED USING THE FOLLOWING FORMULA:

MAWA = (ETo)(0.62)[(ETAF X LA) + (1−(ETAF) X SLA)]
MAWA = MAXIMUM APPLIED WATER ALLOWANCE
ETo = REFERENCE EVAPOTRANSPIRATION (INCHES PER YEAR)
0.62 = CONVERSION FACTOR (TO GALLONS PER SQUARE FOOT)
ETAF = 0.45 FOR NON−RESIDENTIAL AREAS, 0.55 FOR RESIDENTIAL AREAS
AREA = LANDSCAPED AREA INCLUDES SPECIAL LANDSCAPE AREA (SQUARE FEET)
SLA = PORTION OF LANDSCAPE AREA IDENTIFIED AS SPECIAL LANDSCAPE AREA (SQUARE FEET)

	ETo	CONVERSION FACTOR	ETAF	AREA (SQ. FT.)	SLA	(1−(ETAF) X SLA)
	51.9	0.62	0.45	128,569.00	0.00	0.00
					MAWA TOTAL:	1,861,691.98

THE ESTIMATED TOTAL WATER USE (ETWU) SHALL BE CALCULATED USING THE FOLLOWING FORMULA:

ETWU = (ETo)(0.62)(ETAF)(AREA)
ETWU = ESTIMATED TOTAL WATER USE PER YEAR (GALLONS PER YEAR)
ETo = REFERENCE EVAPOTRANSPIRATION (INCHES PER YEAR)
0.62 = CONVERSION FACTOR (TO GALLONS PER SQUARE FOOT)
ETAF = PLANT FACTOR DIVIDED BY IRRIGATION EFFICIENCY (PF/IE)
AREA = HYDROZONE AREA (SQUARE FEET)
PF = PLANT FACTOR FROM WUCOLS
IE = IRRIGATION EFFICIENCY (MINIMUM 0.71)

-TBD-

REGULAR LANDSCAPE AREAS

HYDROZONE	ETo	PF	IE	ETAF (PF/IE)	AREA (SQ. FT.)	ETAF X AREA	ETWU
A | SHRUB | LOW	51.9	0.200	0.81	0.25	124,039	30,626.91	985,512.83
B | TREE | MED	51.9	0.500	0.81	0.62	3,600	2,222.22	71,506.67
C | VINE | MED	51.9	0.500	0.81	0.62	930	574.07	18,472.56
				TOTALS:	128,569.00		1,075,492.05

SPECIAL LANDSCAPE AREAS

NONE				1.00	0.000	0.00	0.00
				TOTALS:			0.00
						ETWU TOTAL:	1,075,492.05

THIS PROJECT COMPLIES WITH TITLE 23 MWELO DUE TO THE FACT THE ETWU DOES NOT EXCEED THE MAWA.

HYDROZONE INFORMATION TABLE

HYDROZONE	VALVE	IRRIGATION METHOD	PLANT TYPE	WATER USE	AREA (SQ.FT.)	% OF LANDSCAPE
A	A1	AREA FOR DRIPLINE	SHRUBS	LOW	1545	1.21
C	A2	BUBBLER	VINES	MEDIUM	220	0.17
B	A3	BUBBLER	TREES	MEDIUM	850	0.67
A	A4	AREA FOR DRIPLINE	SHRUBS	LOW	7952	6.25
A	A5	AREA FOR DRIPLINE	SHRUBS	LOW	1040	0.82
C	A6	BUBBLER	VINES	MEDIUM	240	0.19
A	A7	AREA FOR DRIP EMITTERS	SHRUBS	LOW	15576	12.24
A	A8	AREA FOR DRIPLINE	SHRUBS	LOW	6732	5.29
B	A9	BUBBLER	TREES	MEDIUM	1150	0.90
B	A10	BUBBLER	TREES	MEDIUM	700	0.55
A	A11	AREA FOR D	S	L	864	3.04
A	A12	AREA FOR DRIP EMIT	SHRUBS	L	79	12.24
A	A13	AREA FOR DRIPLIN	S	L	5	5.12
A	A14	AREA FOR DRIPLIN	SHRUBS	L	5	1.98
A	A15	AREA FOR DRIP EMIT	SHRUBS	L	99	11.94
B	A16	BUBBLER		MED	250	0.20
A	A17	AREA FOR DRIPLINE	SHRUBS	LOW	7673	6.03
C	A18	BUBBLER	VINES	MEDIUM	440	0.35
A	A19	AREA FOR DRIP EMITTERS	SHRUBS	LOW	13057	10.26
A	A20	AREA FOR DRIPLINE	SHRUBS	LOW	5278	4.15
A	A21	AREA FOR DRIP EMITTERS	SHRUBS	LOW	13120	10.31
A	A22	AREA FOR DRIPLINE	SHRUBS	LOW	2011	1.58
B	A23	BUBBLER	TREES	MEDIUM	400	0.31
A	A24	AREA FOR DRIP EMITTERS	SHRUBS	LOW	3725	2.93
C	A25	BUBBLER	VINES	MEDIUM	30	0.02
A	A26	AREA FOR DRIPLINE	SHRUBS	LOW	1576	1.24
				GRAND TOTAL:	127,247.0	100%

-TBD-

IRRIGATION WATERING SCHEDULE - ESTABLISHMENT

NUMBER	TYPE	PRECIP	GPM	IN./WEEK	MIN./WEEK	DAYS/WEEK	MIN./DAY	CYCLES/DAY	GAL./WEEK	GAL./DAY
A1	AREA FOR DRIPLINE	0.43 in/h	6.86	0.45	64	3	21	1	439.04	144.06
A2	BUBBLER	0.85 in/h	5.50	1.1	78	3	26	1	429.00	143.00
A3	BUBBLER	1.71 in/h	17.00	1.1	39	3	13	1	663.00	221.00
A4	AREA FOR DRIPLINE	0.43 in/h	35.34	0.45	64	3	21	1	2,261.76	742.14
A5	AREA FOR DRIPLINE	0.43 in/h	3.91	0.45	64	3	21	1	250.24	82.11
A6	BUBBLER	0.85 in/h	6.00	1.1	78	3	26	1	468.00	156.00
A7	AREA FOR DRIP EMITTERS	0.23 in/h	9.62	0.45	117	3	39	1	1,125.54	375.18
A8	AREA FOR DRIPLINE	0.43 in/h	29.92	0.45	64	3	21	1	1,914.88	628.32
A9	BUBBLER	1.7 in/h	23.00	1.1	39	3	13	1	897.00	299.00
A10	BUBBLER	1.71 in/h	14.00	1.1	78	3	13	1	546.00	182.00
A11	AREA FOR DRIPLINE	0.43 in/h	17.17	0.45	128	3	21	1	1,098.88	360.57
A12	AREA FOR DRIP EMITTERS	0.17 in/h	6.93	0.45	117	3	52	1	1,074.15	360.36
A13	AREA FOR DRIPLINE	0.43 in/h	28.95	0.45	128	3	21	1	1,852.80	607.95
A14	AREA FOR DRIPLINE	0.43 in/h	11.22	0.45	64	3	21	1	718.08	235.62
A15	AREA FOR DRIP EMITTERS	0.22 in/h	9.72	0.45	117	3	42	1	1,215.00	408.24
A16	BUBBLER	1.7 in/h	5.00	1.1	39	3	13	1	195.00	65.00
A17	AREA FOR DRIPLINE	0.43 in/h	34.10	0.45	64	3	21	1	2,182.40	716.10
A18	BUBBLER	0.85 in/h	11.00	1.1	78	3	26	1	858.00	286.00
A19	AREA FOR DRIP EMITTERS	0.21 in/h	8.19	0.45	131	3	44	1	1,072.89	360.36
A20	AREA FOR DRIPLINE	0.43 in/h	23.46	0.45	63	3	21	1	1,477.98	492.66
A21	AREA FOR DRIP EMITTERS	0.28 in/h	7.33	0.45	98	3	33	1	718.34	241.89
A22	AREA FOR DRIPLINE	0.43 in/h	8.94	0.45	64	3	21	1	572.16	187.74
A23	BUBBLER	1.71 in/h	8.00	1.1	39	3	13	1	312.00	104.00
A24	AREA FOR DRIP EMITTERS	0.35 in/h	1.93	0.45	77	3	26	1	148.61	50.18
A25	BUBBLER	0.85 in/h	0.75	1.1	78	3	26	1	58.50	19.50
A26	AREA FOR DRIPLINE	0.43 in/h	7.01	0.45	63	3	21	1	441.63	147.21
								TOTALS:	22,990.9	7,616.2

-TBD-

IRRIGATION WATERING SCHEDULE - SUMMER

NUMBER	TYPE	PRECIP	GPM	IN./WEEK	MIN./WEEK	DAY/WEEK	MIN./DAY	CYCLES/DAY	GAL./WEEK	GAL./DAY
A1	AREA FOR DRIPLINE	0.43 in/h	6.86	0.37	52	3	17	1	356.72	116.62
A2	BUBBLER	0.85 in/h	5.50	0.92	65	3	22	1	357.50	121.00
A3	BUBBLER	1.71 in/h	17.00	0.92	33	3	11	1	561.00	187.00
A4	AREA FOR DRIPLINE	0.43 in/h	35.34	0.37	52	3	17	1	1,837.68	600.78
A5	AREA FOR DRIPLINE	0.43 in/h	3.91	0.37	52	3	17	1	203.32	66.47
A6	BUBBLER	0.85 in/h	6.00	0.92	65	3	22	1	390.00	132.00
A7	AREA FOR DRIP EMITTERS	0.23 in/h	9.62	0.37	97	3	32	1	933.14	307.84
A8	AREA FOR DRIPLINE	0.43 in/h	29.92	0.37	52	3	17	1	1,555.84	508.64
A9	BUBBLER	1.7 in/h	23.00	0.92	33	3	11	1	759.00	253.00
A10	BUBBLER	1.71 in/h	14.00	0.92	33	3	11	1	462.00	154.00
A11	AREA FOR DRIPLINE	0.43 in/h	17.17	0.37	52	3	17	1	892.84	291.89
A12	AREA FOR DRIP EMITTERS	0.17 in/h	6.93	0.37	128	3	43	1	887.04	297.99
A13	AREA FOR DRIPLINE	0.43 in/h	28.95	0.37	52	3	17	1	1,505.40	492.15
A14	AREA FOR DRIPLINE	0.43 in/h	11.22	0.37	52	3	17	1	583.44	190.74
A15	AREA FOR DRIP EMITTERS	0.22 in/h	9.72	0.37	102	3	34	1	1,001.16	330.48
A16	BUBBLER	1.7 in/h	5.00	0.92	33	3	11	1	165.00	55.00
A17	AREA FOR DRIPLINE	0.43 in/h	34.10	0.37	52	3	17	1	1,773.20	579.70
A18	BUBBLER	0.85 in/h	11.00	0.92	65	3	22	1	715.00	242.00
A19	AREA FOR DRIP EMITTERS	0.21 in/h	8.19	0.37	108	3	36	1	884.52	294.84
A20	AREA FOR DRIPLINE	0.43 in/h	23.46	0.37	52	3	17	1	1,219.92	398.82
A21	AREA FOR DRIP EMITTERS	0.28 in/h	7.33	0.37	80	3	27	1	586.40	197.91
A22	AREA FOR DRIPLINE	0.43 in/h	8.94	0.37	52	3	17	1	464.88	151.98
A23	BUBBLER	1.71 in/h	8.00	0.92	33	3	11	1	264.00	88.00
A24	AREA FOR DRIP EMITTERS	0.35 in/h	1.93	0.37	63	3	21	1	121.59	40.53
A25	BUBBLER	0.85 in/h	0.75	0.92	65	3	22	1	48.75	16.50
A26	AREA FOR DRIPLINE	0.43 in/h	7.01	0.37	52	3	17	1	364.52	119.17
								TOTALS:	18,893.9	6,235.1

-TBD-

IRRIGATION WATERING SCHEDULE - SPRING/FALL

NUMBER	TYPE	PRECIP	GPM	IN./WEEK	MIN./WEEK	DAY/WEEK	MIN./DAY	CYCLES/DAY	GAL./WEEK	GAL./DAY
A1	AREA FOR DRIPLINE	0.43 in/h	6.86	0.2	29	2	15	1	198.94	102.90
A2	BUBBLER	0.85 in/h	5.50	0.49	35	1	35	1	192.50	192.50
A3	BUBBLER	1.71 in/h	17.00	0.49	18	1	18	1	306.00	306.00
A4	AREA FOR DRIPLINE	0.43 in/h	35.34	0.2	29	2	15	1	1,024.86	530.10
A5	AREA FOR DRIPLINE	0.43 in/h	3.91	0.2	29	2	15	1	113.39	58.65
A6	BUBBLER	0.85 in/h	6.00	0.49	35	1	35	1	210.00	210.00
A7	AREA FOR DRIP EMITTERS	0.23 in/h	9.62	0.2	52	2	26	1	500.24	250.12
A8	AREA FOR DRIPLINE	0.43 in/h	29.92	0.2	29	2	15	1	867.68	448.80
A9	BUBBLER	1.7 in/h	23.00	0.49	18	1	18	1	414.00	414.00
A10	BUBBLER	1.71 in/h	14.00	0.49	18	1	18	1	252.00	252.00
A11	AREA FOR DRIPLINE	0.43 in/h	17.17	0.2	29	2	15	1	497.93	257.55
A12	AREA FOR DRIP EMITTERS	0.17 in/h	6.93	0.2	59	2	35	1	478.17	242.55
A13	AREA FOR DRIPLINE	0.43 in/h	28.95	0.2	29	2	15	1	839.55	434.25
A14	AREA FOR DRIPLINE	0.43 in/h	11.22	0.2	29	2	15	1	325.38	168.30
A15	AREA FOR DRIP EMITTERS	0.22 in/h	9.72	0.2	42	2	28	1	544.32	272.16
A16	BUBBLER	1.7 in/h	5.00	0.49	18	1	18	1	90.00	90.00
A17	AREA FOR DRIPLINE	0.43 in/h	34.10	0.2	29	2	15	1	988.90	511.50
A18	BUBBLER	0.85 in/h	11.00	0.49	35	1	35	1	385.00	385.00
A19	AREA FOR DRIP EMITTERS	0.21 in/h	8.19	0.2	59	2	30	1	483.21	245.70
A20	AREA FOR DRIPLINE	0.43 in/h	23.46	0.2	28	2	14	1	656.88	328.44
A21	AREA FOR DRIP EMITTERS	0.28 in/h	7.33	0.2	44	2	22	1	322.52	161.26
A22	AREA FOR DRIPLINE	0.43 in/h	8.94	0.2	29	2	15	1	259.26	134.10
A23	BUBBLER	1.71 in/h	8.00	0.49	18	1	18	1	144.00	144.00
A24	AREA FOR DRIP EMITTERS	0.35 in/h	1.93	0.2	34	2	17	1	65.62	32.81
A25	BUBBLER	0.85 in/h	0.75	0.49	35	1	35	1	26.25	26.25
A26	AREA FOR DRIPLINE	0.43 in/h	7.01	0.2	28	2	14	1	196.28	98.14
								TOTALS:	10,382.9	6,297.1

-TBD-

IRRIGATION WATERING SCHEDULE - WINTER

NUMBER	TYPE	PRECIP	GPM	IN./WEEK	MIN./WEEK	DAY/WEEK	MIN./DAY	CYCLES/DAY	GAL./WEEK	GAL./DAY
A1	AREA FOR DRIPLINE	0.43 in/h	6.86	0.09	13	2	7	1	89.18	48.02
A2	BUBBLER	0.85 in/h	5.50	0.22	16	1	16	1	88.00	88.00
A3	BUBBLER	1.71 in/h	17.00	0.22	8	1	8	1	136.00	136.00
A4	AREA FOR DRIPLINE	0.43 in/h	35.34	0.09	13	2	7	1	459.42	247.38
A5	AREA FOR DRIPLINE	0.43 in/h	3.91	0.09	13	2	7	1	50.83	27.37
A6	BUBBLER	0.85 in/h	6.00	0.22	16	1	16	1	96.00	96.00
A7	AREA FOR DRIP EMITTERS	0.23 in/h	9.62	0.09	24	2	12	1	230.88	115.44
A8	AREA FOR DRIPLINE	0.43 in/h	29.92	0.09	13	2	7	1	388.96	209.44
A9	BUBBLER	1.7 in/h	23.00	0.22	8	1	8	1	184.00	184.00
A10	BUBBLER	1.71 in/h	14.00	0.22	8	1	8	1	112.00	112.00
A11	AREA FOR DRIPLINE	0.43 in/h	17.17	0.09	13	2	7	1	223.21	120.19
A12	AREA FOR DRIP EMITTERS	0.17 in/h	6.93	0.09	31	2	16	1	214.83	110.88
A13	AREA FOR DRIPLINE	0.43 in/h	28.95	0.09	13	2	7	1	376.35	202.65
A14	AREA FOR DRIPLINE	0.43 in/h	11.22	0.09	13	2	7	1	145.86	78.54
A15	AREA FOR DRIP EMITTERS	0.22 in/h	9.72	0.09	26	2	13	1	243.00	126.36
A16	BUBBLER	1.7 in/h	5.00	0.22	8	1	8	1	40.00	40.00
A17	AREA FOR DRIPLINE	0.43 in/h	34.10	0.09	13	2	7	1	443.30	238.70
A18	BUBBLER	0.85 in/h	11.00	0.22	16	1	16	1	176.00	176.00
A19	AREA FOR DRIP EMITTERS	0.21 in/h	8.19	0.09	27	2	14	1	221.13	114.66
A20	AREA FOR DRIPLINE	0.43 in/h	23.46	0.09	13	2	7	1	304.98	164.22
A21	AREA FOR DRIP EMITTERS	0.28 in/h	7.33	0.09	20	2	10	1	146.60	73.30
A22	AREA FOR DRIPLINE	0.43 in/h	8.94	0.09	13	2	7	1	116.22	62.58
A23	BUBBLER	1.71 in/h	8.00	0.22	8	1	8	1	64.00	64.00
A24	AREA FOR DRIP EMITTERS	0.35 in/h	1.93	0.09	16	2	8	1	30.88	15.44
A25	BUBBLER	0.85 in/h	0.75	0.22	16	1	16	1	12.00	12.00
A26	AREA FOR DRIPLINE	0.43 in/h	7.01	0.09	13	2	7	1	91.13	49.07
								TOTALS:	4,684.8	2,912.2

-TBD-

811 Know what's below. Call before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814
City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK (LI9300002)
IRRIGATION CALCS AND SCHEDULES

DESIGN BY: Stantec
DATE 05.01.2023
SCALE 1" = 30'-0"
P. N. LI9-3000-02
REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
LI504 of XX

PLANTING NOTES

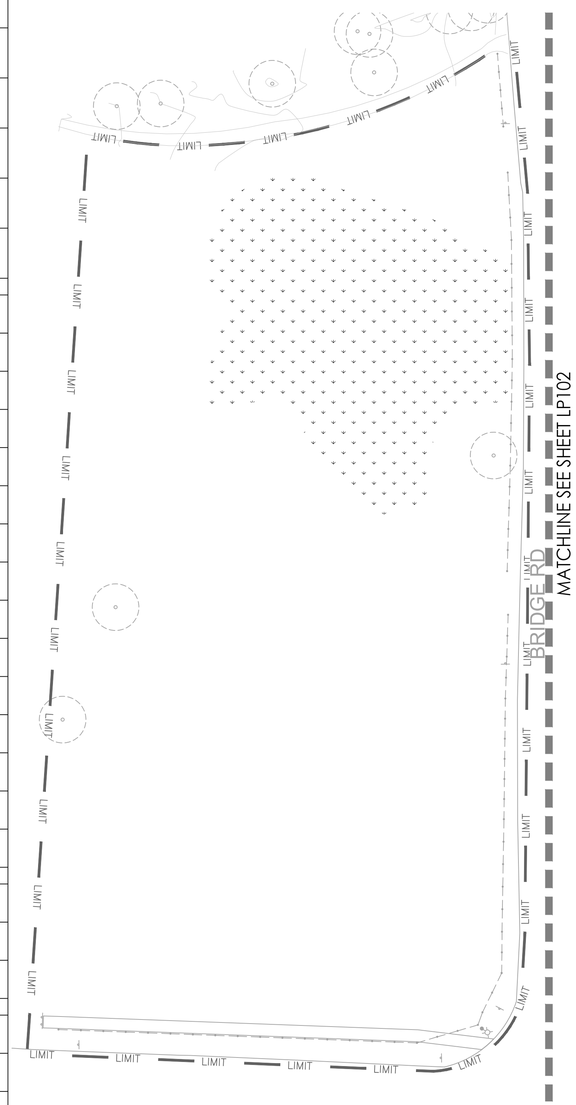
1. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY PLANT QUANTITIES FROM LANDSCAPE PLAN. QUANTITIES ARE PROVIDED FOR REFERENCE ONLY.
2. ALL LOCAL CODES AND ORDINANCES SHALL BE COMPLIED WITH. IF THERE IS A CONFLICT, THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IN WRITING.
3. NO PLANTING SHALL BE STARTED UNTIL FINISH GRADING AND IRRIGATION SYSTEM HAVE BEEN COMPLETED AND APPROVED BY THE OWNER.
4. IMMEDIATELY UPON AWARD, CONTRACTOR SHALL SECURE PLANT MATERIALS AS SPECIFIED AND CONTACT THE OWNER AND COSUMNES CSD FOR APPROVED SUBSTITUTIONS. NO SUBSTITUTIONS FOR PLANT MATERIALS WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE OWNER AND COSUMNES CSD. CONTRACTOR SHALL NOTIFY THE OWNER AND COSUMNES CSD IN THE EVENT OF PLANT UNAVAILABILITY IMMEDIATELY. ANY SUBSTITUTIONS MUST BE REQUESTED IN WRITING AND SUBMITTED TO THE OWNER AND COSUMNES CSD FOR APPROVAL WITHIN 30 DAYS AFTER AWARD OF CONTRACT.
5. NOTIFY THE OWNER IF SUBSURFACE WATER IS ENCOUNTERED DURING PLANT PIT EXCAVATION.
6. AFTER PLANTING IS COMPLETE AND AREAS HAVE BEEN FINE GRADED, SPREAD BARK MULCH TO A DEPTH OF THREE INCHES (3") MINIMUM IN ALL PLANTER BEDS. APPLY GRANULAR PRE-EMERGENT, AS PER SPECIFICATIONS TO ALL PLANTER BEDS BEFORE MULCH TOP-DRESS IS SPREAD. ADDITIONAL FERTILIZER AND PRE-EMERGENT TO BE APPLIED AT END OF MAINTENANCE PERIOD.
7. BARK MULCH SHALL BE MEDIUM CHUNK BARK (3/4" TO 2" IN SIZE) AND SHALL BE FREE OF FIBROUS PIECES, SOIL, STONES, STICKS, DEBRIS OR OTHER FOREIGN MATTER.
8. PLANTING TABLETS ARE TO BE 7 GRAM GRO-POWER TYPE OR EQUAL APPLIED AT THE FOLLOWING RATE:
   - THREE (3) TABLETS PER ONE GALLON CONTAINER.
   - SIX (6) TABLETS PER FIVE GALLON CONTAINER.
   - NINE (9) TABLETS PER FIFTEEN GALLON CONTAINER.
   - FIFTEEN (15) TABLETS PER 24" BOX CONTAINER.
9. THE CONTRACTOR SHALL MAINTAIN ALL LANDSCAPE AREAS FOR A MINIMUM PERIOD OF NINETY (90) CALENDAR DAYS.
10. MAINTENANCE SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING: WATERING, WEEDING, TRIMMING, FERTILIZING, SPRAYING INSECT AND PEST CONTROLS, REPLACEMENT OF DAMAGED OR DYING PLANT MATERIAL, LITTER AND TRASH REMOVAL. FERTILIZER SHALL BE LIQUID IN ALL DRIP IRRIGATED PLANTERS, AS RECOMMENDED BY THE SOILS ANALYSIS.
11. ALL LANDSCAPED AREAS SHALL HAVE A MINIMUM SLOPE OF 2% AND A MAXIMUM SLOPE OF 30%. IF LANDSCAPE AREA EXCEEDS 30% SLOPE, INSTALL JUTE MESH SLOPE STABILIZATION.
12. ALL PLANT MATERIALS SHALL MEET SIZE SPECIFICATIONS AS SHOWN ON THE PLANT LIST, AND SHALL BE HEALTHY, FULL, AND SHALL BE OF FIRST RATE QUALITY FOR THE SPECIES. SUBSTITUTIONS MAY BE ALLOWED. CONTACT THE OWNER IMMEDIATELY, IF A SPECIFIED MATERIAL IS NOT AVAILABLE, FOR REVIEW AND APPROVAL OF SUBSTITUTIONS PRIOR TO ORDERING.
13. ALL PLANT MATERIALS SHALL BE INSTALLED AS SHOWN ON THE DETAILS OF THESE PLANS.
14. ALL PLANTING AREAS SHALL BE GRADED AND PLANTED FOR POSITIVE DRAINAGE AWAY FROM STRUCTURES, WALLS, AND FENCES.
15. THE LOCATIONS OF TREES AND SHRUBS SHALL BE ADJUSTED IN THE FIELD TO ACCOMMODATE EXISTING UTILITIES, LIGHTS, SPRINKLERS, ETC.
16. EXCAVATED PLANT PITS SHALL HAVE POSITIVE DRAINAGE. PLANT PITS WHEN FULLY FLOODED WITH WATER SHALL DRAIN WITHIN ONE HOUR AFTER FILLING. THE CONTRACTOR SHALL EXCAVATE THROUGH ANY IMPERVIOUS CLAY LAYER, IF ENCOUNTERED.
17. ALL TREES SHALL BE PLANTED A MINIMUM OF FIVE FEET (5') FROM UNDERGROUND UTILITIES AND BUILDINGS. TREES SHALL BE PLANTED NO CLOSER THAN THREE FEET (3') FROM CURBS OR WALKS. TREES SHALL BE PLANTED WITH ROOT CROWN ONE INCH (1") ABOVE FINISH GRADE.
18. ALL PLANT MATERIAL SHALL MAINTAIN A FIVE FOOT (5') CLEARANCE AROUND ALL FIRE DEPARTMENT APPARATUS.
19. SEE DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
20. ALL MATERIALS AND WORK WITHIN THE RIGHT-OF-WAY SHALL MEET REQUIREMENTS OF THE UNIFORM BUILDING CODE, NATIONAL ELECTRICAL CODE, UNIFORM PLUMBING CODE AND ALL OTHER GOVERNING AGENCIES AND THE LATEST EDITION OF STANDARD CONSTRUCTION SPECIFICATIONS AND IMPROVEMENT STANDARDS OF THE GOVERNING JURISDICTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE OWNER.
21. SOIL TESTING:
   - A. COORDINATE SOIL TESTING IN AN EXPEDITIOUS MANNER AS REQUIRED FOR PROVIDING ON-SITE MATERIALS. RESPONSIBILITY OF CONTRACTING WITH A SOIL LABORATORY SHALL BE BORNE BY THE CONTRACTOR. COST OF SAMPLING AND TESTING SHALL BE INCLUDED IN THE CONTRACT PRICE. CONTRACTOR SHALL COLLECT SAMPLES IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.
   - B. SOIL SAMPLE SHALL BE SUBMITTED TO A PREVIOUSLY APPROVED SOIL LABORATORY. REQUEST APPROVAL FROM OWNER'S REPRESENTATIVE AND SUBMIT SAMPLES AS REQUIRED BY THE LABORATORY.
   - C. AT A MINIMUM, SOIL REPORT RESULTS SHALL CONTAIN: PH, SALINITY, AMMONIA, PHOSPHATE, POTASSIUM, CALCIUM, MAGNESIUM, BORON, AND SODIUM LEVELS. LABORATORY TO PROVIDE APPRAISAL OF CHEMICAL PROPERTIES, INCLUDING PARTICLE SIZE, TEXTURE AND RECOMMENDATIONS FOR TYPES AND QUANTITIES OF AMENDMENTS AND FERTILIZERS.
   - D. RESULTS OF THE SOIL TESTING SHALL BE PROVIDED TO OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT, WITH AMENDMENT RECOMMENDATIONS AND SOIL TEXTURE RESULTS.
   - E. SOIL TESTING SHALL COMPLY WITH EGMC 14.10.090 SOIL MANAGEMENT REPORT.
   - F. CONTRACTOR SHALL SUBMIT SOIL REPORT TO THE CITY AS PART OF THE CERTIFICATE OF COMPLETION SUBMITTAL.
   - G. CONTRACTOR SHALL SUBMIT DOCUMENTATION TO THE CITY VERIFYING THE IMPLEMENTATION OF SOIL ANALYSIS REPORT RECOMMENDATIONS WITH CERTIFICATE OF COMPLETION SUBMITTAL.
22. INSTALL TREE ROOT BARRIERS AT ALL TREES WHERE CENTER OF PROPOSED TRUNK IS WITHIN FIVE FEET (5') OF A CURB, PAVING OR WALKWAYS, PER CONSTRUCTION DETAILS.

PLANT SCHEDULE

TREES	CODE	BOTANICAL NAME	COMMON NAME	CONT	SIZE HXW	WATER USE	QTY
	ACE MAC	ACER MACROPHYLLUM	BIG LEAF MAPLE	24" BOX	75'HX50'W	LOW	3
	CER WES	CERCIS OCCIDENTALIS	WESTERN REDBUD MULTI-TRUNK	24" BOX	18'HX18'W	LOW	30
	PLA RAC	PLATANUS RACEMOSA	CALIFORNIA SYCAMORE	24" BOX	80'HX50'W	LOW	7
	QUE MUL	QUERCUS AGRIFOLIA	COAST LIVE OAK MULTI-TRUNK	24" BOX	70'HX70'W	VERY LOW	14
	QUE LOB	QUERCUS LOBATA	VALLEY OAK	24" BOX	80'HX80'W	LOW	22
	QUE WIS	QUERCUS WISLIZENI	INTERIOR LIVE OAK	24" BOX	60'HX60'W	LOW	17
SHRUBS	CODE	BOTANICAL NAME	COMMON NAME	CONT	SIZE HXW	WATER USE	QTY
	ACH PAP	ACHILLEA MILLEFOLIUM 'PAPRIKA'	PAPRIKA COMMON YARROW	1 GAL	2'HX2'W	LOW	108
	ARC HOW	ARCTOSTAPHYLOS DENSIFLORA 'HOWARD MCMINN'	HOWARD MCMINN VINE HILL MANZANITA	5 GAL	4'HX6'W	LOW	21
	CEA VAL	CEANOTHUS MARITIMUS 'VALLEY VIOLET'	VALLEY VIOLET MARITIME CEANOTHUS	5 GAL	3'HX6'W	LOW	63
	CEA HAR	CEANOTHUS X 'RAY HARTMAN'	RAY HARTMAN WILD LILAC	15 GAL	20'HX20'W	LOW	5
	DIP AUR	DIPLACUS AURANTIACUS	STICKY MONKEYFLOWER	5 GAL	4'HX5'W	LOW	111
	EPI HUM	EPILOBIUM CANUM	CALIFORNIA FUCHSIA	1 GAL	2'HX3'W	LOW	302
	ERI GIG	ERIOGONUM GIGANTEUM	ST. CATHERINE'S LACE	5 GAL	8'HX8'W	LOW	5
	FRA CA3	FRANGULA CALIFORNICA	CALIFORNIA COFFEEBERRY	5 GAL	6'HX8'W	LOW	40
	FRA PAL	FRANKENIA PALMERI	PALMER'S FRANKENIA	5 GAL	3'HX5'W	LOW	52
	GLA LIL	GLANDULARIA LILACINA 'DE LA MINA'	DE LA MINA CEDROS ISLAND VERBENA	1 GAL	3'HX4'W	LOW	33
	PEN MAR	PENSTEMON HETEROPHYLLUS 'MARGARITA BOP'	MARGARITA BOP PENSTEMON	1 GAL	2'HX3'W	LOW	293
	RHU GRO	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC	5 GAL	3'HX6'W	LOW	56
	SAL CO6	SALVIA APIANA COMPACTA	COMPACT WHITE SAGE	1 GAL	3'HX3'W	LOW	230
	SAL PU3	SALVIA LEUCOPHYLLA	PURPLE SAGE	5 GAL	4'HX6'W	LOW	12
	SYM CHI	SYMPHYOTRICHUM CHILENSE	PACIFIC ASTER	1 GAL	3'HX3'W	LOW	61
GRASSES	CODE	BOTANICAL NAME	COMMON NAME	CONT	SIZE HXW	WATER USE	QTY
	BOU BLO	BOUTELOUA GRACILIS 'BLONDE AMBITION'	BLONDE AMBITION BLUE GRAMA	1 GAL	3'HX3'W	LOW	317
	ELY CA2	ELYMUS CONDENSATUS 'CANYON PRINCE'	CANYON PRINCE WILD RYE	1 GAL	3'HX3'W	LOW	385
	MUH RIG	MUHLENBERGIA RIGENS	DEER GRASS	5 GAL	6'HX6'W	LOW	234
GROUND COVERS	CODE	BOTANICAL NAME	COMMON NAME	CONT	SIZE HXW	WATER USE	QTY
	ARC ECP	ARCTOSTAPHYLOS X 'EMERALD CARPET'	EMERALD CARPET MANZANITA	5 GAL	1'HX5'W	LOW	222
	BAR MUL	BARK MULCH		5 GAL			21,140 SF
	SAL BE2	SALVIA X 'BEE'S BLISS'	BEE'S BLISS SAGE	5 GAL	2'HX8'W	LOW	142
HYDROSEED	CODE	BOTANICAL NAME	COMMON NAME	CONT	SIZE HXW	WATER USE	QTY
	BOL PLS	BOLERO PLUS – TURF GRASS	AS PROVIDED BY DELTA BLUEGRASS CO.	HYDROSEED	–	HIGH	161,561 SF
	NAT MIX	NATIVE PRESERVATION MIX –NO MOW GRASS	AS PROVIDED BY DELTA BLUEGRASS CO.	HYDROSEED	–	MEDIUM	45,718 SF

TREE ROOT BARRIER		QTY
– – – – – – – –	INSTALL TREE ROOT BARRIER AS MANUFACTURED BY VESPRO, INC. (800) 554-0914, OR EQUAL.	PER DETAILS

TOTAL TREE CALIPER MITIGATION:	186



SEE DRAWING CV001 FOR GENERAL NOTES

SEE DRAWING LP501 FOR PLANTING DETAILS

☒ I HAVE COMPLIED WITH THE CRITERIA OF THE MWELO ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN.

LANDSCAPE ARCHITECT DATE

N

0 30' 45' 60'
SCALE: 1"=30'-0"

811 Know what's below. Call before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO
Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
PLANTING PLAN

DESIGN BY: Stantec

DATE 05.01.2023

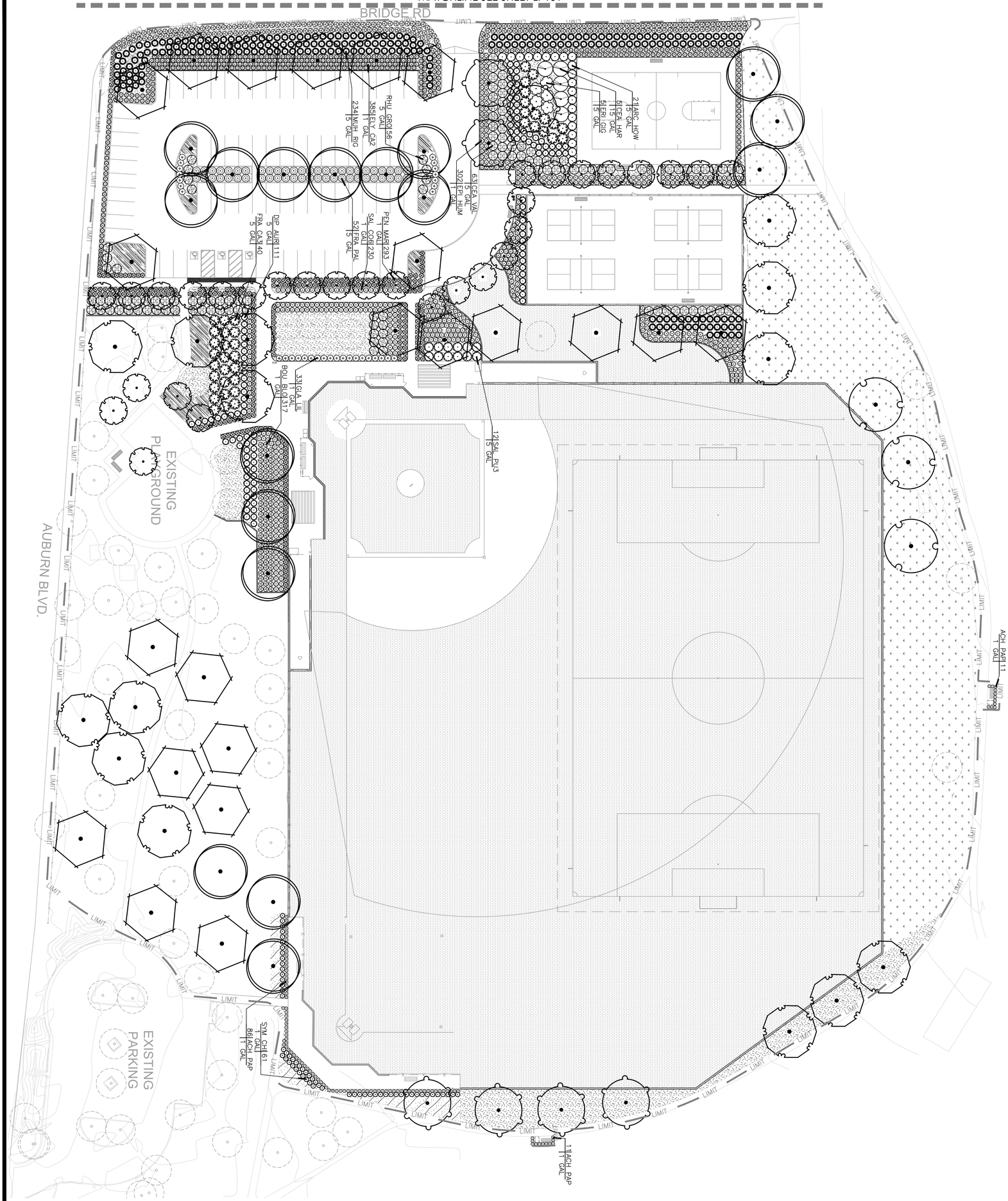
SCALE 1" = 30'-0"

P. N. LI9-3000-02

REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
LP101 of XX



I HAVE COMPLIED WITH THE CRITERIA OF THE MWELO ORDINANCE AND APPLIED THEM ACCORDINGLY FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN.

LANDSCAPE ARCHITECT DATE

SEE DRAWING LP501 FOR PLANTING DETAILS

SEE DRAWING CV001 FOR GENERAL NOTES

SEE DRAWING CV001 FOR GENERAL NOTES

811 Know what's below. Call before you dig.

SCALE: 1"=30'-0"

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
PLANTING PLAN

DESIGN BY: Stantec

DATE 05.01.2023

SCALE 1" = 30'-0"

P. N. LI19-3000-02

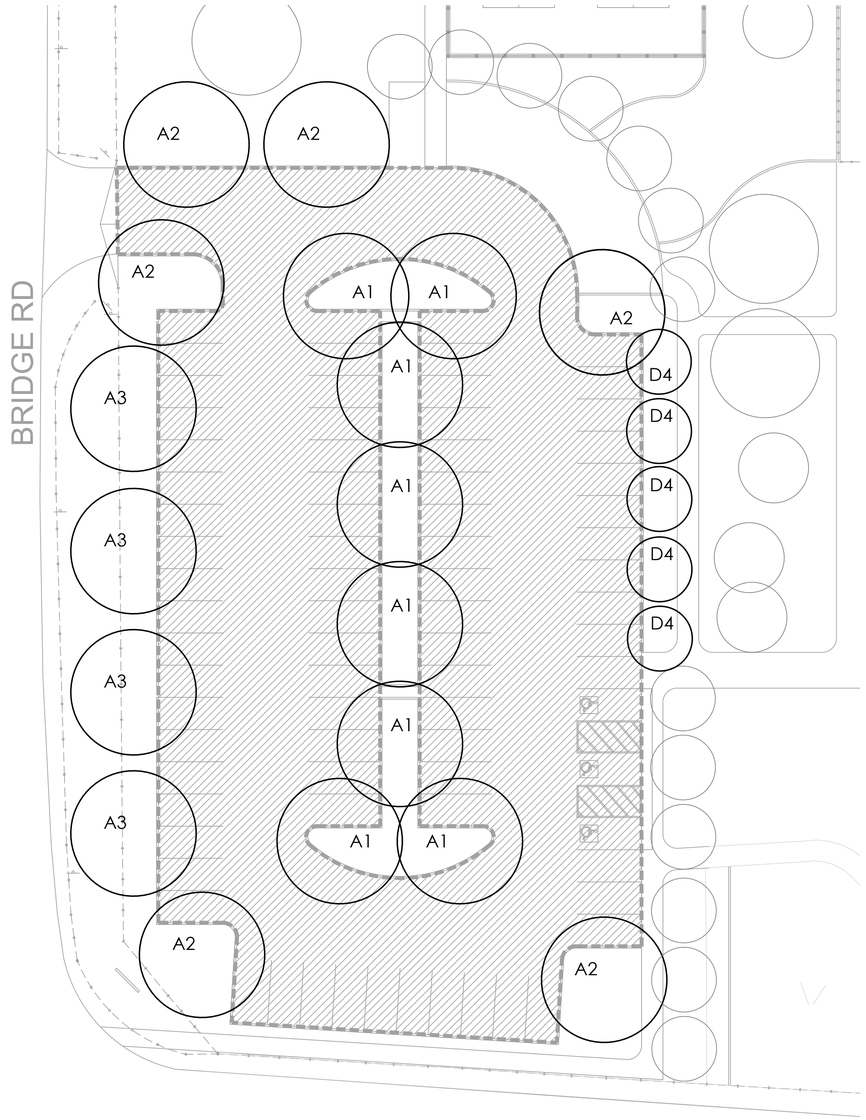
REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. LP102 of XX

City of SACRAMENTO
Youth, Parks, & Community Enrichment

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814



PARKING LOT SHADE CALCULATIONS						
TREE TYPE	CANOPY	1 (100%)	2 (75%)	3 (50%)	4 (25%)	
A	30' – 35'	8 @ 962 SF	4 @ 722 SF	6 @ 481 SF	–	
B	25' – 30'	–	–	–	–	
C	20' –25'	–	–	–	–	
D	15' –20'	–	–	–	5 @ 79 SF	
TOTALS		7,696 SF	2,888 SF	2,886 SF	395 SF	13,865 SF

TOTAL PARKING LOT AREA	27,581 SF

TOTAL SHADED AREA	13,865 SF
REQUIRED SHADED AREA (50%)	13,790 SF
PERCENT SHADED	50 %

MEETS CODE REQUIREMENT

XX TREE COVERAGE APPLIED TOWARDS SHADE CALCULATIONS

TREES NOT APPLIED TOWARDS SHADE CALCULATIONS

PARKING AREA REQUIRED TO MEET SHADING REQUIREMENTS

SEE DRAWING CV001 FOR GENERAL NOTES

SEE DRAWING LP501 FOR PLANTING DETAILS

SEE DRAWING LP101 FOR PLANTING LEGEND AND NOTES

N

0 20' 30' 40'
SCALE: 1"=20'-0"

811 Know what's **below.** **Call** before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK

PARKING LOT SHADE CALCULATIONS

DESIGN BY: Stantec

DATE 05.01.2023

SCALE 1" = 30'-0"

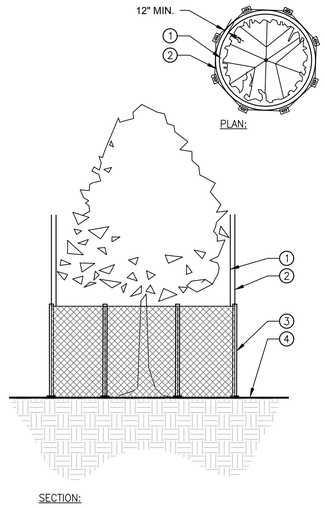
P. N. LI9-3000-02

REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.

LP103 of XX



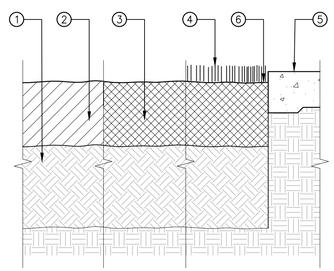
1. TREE DRIP LINE (TDL): A FULL AND REGULAR CIRCLE AROUND THE TREE WITH A RADIUS THE LENGTH OF THE LONGEST HORIZONATL BRANCH.
2. TREE PROTECTION ZONE (TPZ): A FULL AND REGULAR CIRCLE AROUND THE TREE WITH A RADIUS THE LENGTH OF THE LONGEST HORIZONTAL BRANCH, PLUS 12" MININUM.
3. 6'-0" TALL CHAINLINK FENCE.
4. FINISH GRADE.

NOTES:
1. CHAIN LINK FENCING SHALL BE PLACED AT THE EDGE OF THE TPZ OF ALL TREES TO BE PRESERVED WITHIN OR ADJACENT TO THE CONSTRUCTION AREA (WITHIN 15' FEET).
2. TREES TO BE PRESERVED SHALL BE PROTECTED FROM DISTURBANCE IN ACCORDANCE WITH THIS DETAIL PRIOR TO AND THROUGHOUT CONSTRUCTION.
3. SEE ALSO, TREE PROTECTION NOTES ON PLAN SHEETS.

1 TREE PROTECTION

SCALE:NTS — SECTION / PLAN

PROJ-DEL-11



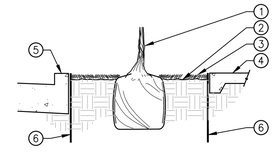
1. RIP OR SCARIFYTOP 12" OF SUBGRADE. ORGANIC AMENDMENTS TO BE NOTROGEN STABILIZED FIR OR REDWOOD BARK.
2. ADD AMENDMENTS AND FERTILIZER PER SOILS REPORT.
3. ROTOTILL AMENDMENTS INTO TOPSOIL.
4. LAY SOD PERPENDICULAR TO DRAINAGE FLOW LINES AND ROLL.
5. ADJACENT PAVEMENT OR HEADER.
6. FINISH GRADE. HOLD 1/2" BELOW TOP OF ADJACENT PAVING IN SEED OR 1-1/2" FOR SOD.

NOTES:
A. ALL TURF SHALL DRAIN AT 2% MINIMUM WITH 10:1 MAXIMUM.

2 TURF INSTALLATION

SCALE:1 1/2" = 1'-0" — SECTION

PROJ-DEL-31



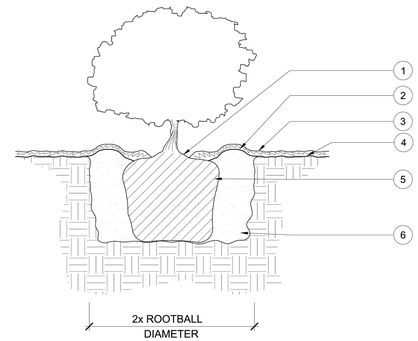
1. TREE
2. FINISH GRADE
3. MULCH
4. CONCRETE WALK
5. CONCRETE CURB
6. 24" DEEP ROOT BARRIER BY DEEP ROOT CORP. INSTALL 8' (MIN.) PANEL PER MANUFACTURER'S SPECIFICATIONS. INSTALL PER PLAN.

NOTES:
A. REFER TO "PLANTING NOTES" FOR MINIMUM TREE DISTANCE FROM HARDSCAPE REQUIRING A ROOT BARRIER.
B. SEE "TREE PLANTING" DETAIL (THIS SHEET) FOR PLANTING AND STAKING OF PROPOSED TREES.

3 TREE ROOT BARRIER

SCALE:NTS — SECTION

PROJ-DEL-18



SECTION

CALLOUTS
1. PLANT ROOT CROWN 1" ABOVE FINISH GRADE.
2. 2" HIGH EARTH MOUND. FINISH GRADE
3. BARK MULCH, MULCH SHALL NOT COVER ROOT CROWN.
4. FINISH GRADE.
5. SHRUB ROOTBALL.
6. BACKFILL MIX, PER STANDARD SPECIFICATIONS.

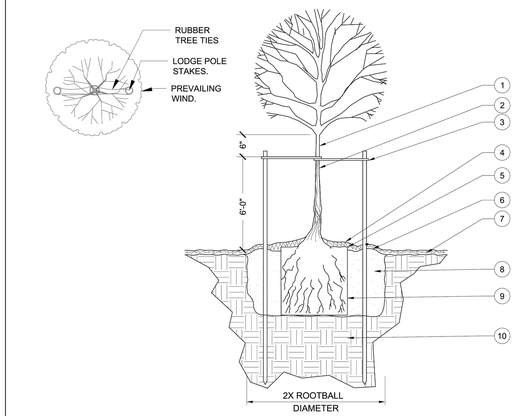
REV.	DATE	DESCRIPTION

CITY OF SACRAMENTO
Department of Youth, Parks and Community Enrichment

SHRUB PLANTING

APPR'D BY:
DATE: APRIL 2020 DWG. NO. L-203

4 SHRUB PLANTING



SECTION

CALLOUTS
1. TREE
2. REMOVE NURSERY STAKE.
3. VINYL OR NON-ABRASIVE RUBBER TREE TIES: 2 PER STAKE. WRAP NO WIRE AROUND TRUNK OR LIMB.
4. BARK MULCH, NO MORE THAN 1" OF MULCH ON TOP OF ROOT BALL. KEEP TRUNK BASE CLEAR OF BARK
5. TOP OF ROOT BALL SHALL BE A MINIMUM OF 1" ABOVE FINISHED GRADE.
6. 4" HIGH EARTH WATERING BERM IN PLANTER AREA ONLY. BERM SHALL BEGIN AT ROOT BALL PERIPHERY.
7. FINISH SURROUNDING GRADE.
8. LOOSENED NATIVE SOIL, PER STANDARD SPECIFICATIONS.
9. ROOTS SHALL BE LOOSENED, SCORED, AND UNTANGLED PRIOR TO PLACING ROOT BALL IN HOLE.
10. UNDISTURBED OR COMPACTED SOIL.

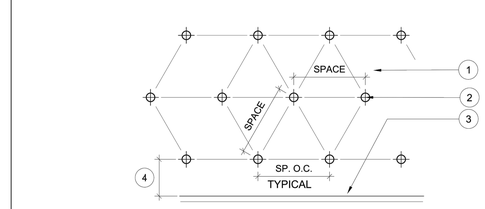
REV.	DATE	DESCRIPTION

CITY OF SACRAMENTO
Department of Youth, Parks and Community Enrichment

TREE PLANTING

APPR'D BY:
DATE: APRIL 2020 DWG. NO. L-202

5 TREE PLANTING



PLAN VIEW

CALLOUTS
1. GROUNDCOVER SPACING: SEE PLANTING LEGEND.
2. GROUNDCOVER CENTERS.
3. WALL, SIDEWALK OR EDGE OR GROUNDCOVER PLANTING.
4. HALF SPACE OF THE GROUNDCOVER SPACING OR AS SPECIFIED ON THE PLANS.

NOTES
1. RIP OR SCARIFY TOP 12" OF SUBGRADE PRIOR TO PLANTING.
2. ADD AMENDMENTS AND FERTILIZER PER SOILS REPORT.
3. ROTOTILL AMENDMENTS AND FERTILIZER INTO TOP 12" OF TOPSOIL OR PER SOILS REPORT.
4. PLANT GROUNDCOVER: TRIANGULAR SPACING.
5. BARK MULCH, MULCH SHALL NOT COVER ROOT CROWN

REV.	DATE	DESCRIPTION

CITY OF SACRAMENTO
Department of Youth, Parks and Community Enrichment

GROUNDCOVER PLANTING

APPR'D BY:
DATE: APRIL 2020 DWG. NO. L-200

6 GROUNDCOVER PLANTING

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CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO
Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
PLANTING DETAILS

DESIGN BY: Stantec
DATE 05.01.2023
SCALE 1" = 30'-0"
P. N. L19-3000-02
REVISIONS

PRELIMINARY
NOT FOR CONSTRUCTION

SHEET NO.
LP501 of XX

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (L19300002)

ELECTRICAL SYMBOLS - PLANS

CLG.	WALL	FLOOR	SYMBOLS DESCRIPTION
			LIGHTING FIXTURE ON EMERGENCY SOURCE OR CIRCUIT
E CLG	E		EMERGENCY LIGHTING UNIT (BATTERY POWERED)
1NHB-1b			FIXTURE CONNECTED TO PANEL 1NHB, CKT #1, SWITCH "b"
A	A		LED FIXTURE TYPE "A", INDICATES FIXTURE TAG SEE FIXTURE SCHEDULE TYPICAL FOR ROOM NOTED, UON

CLG.	WALL	CLG.	WALL	
CLG		CLG		SIMPLEX RECEPTACLE
CLG		CLG		DUPLEX RECEPTACLE
CLG		CLG		DOUBLE DUPLEX RECEPTACLE
CLG		CLG		SPECIAL PURPOSE RECEPTACLE: TYPE AS NOTED ON PLANS
	AB			RECEPTACLE TYPE SHOWN-ABOVE COUNTER BACKSPLASH.

CLG.	WALL	FLOOR	
			DUPLEX RECEPTACLE - HALF SWITCHED
	X		DUPLEX RECEPTACLE X DEFINED AS: C = RECEPTACLE ON CONTROLLED CIRCUIT G = GFCI IG = ISOLATED GROUND T = TAMPER RESISTANT U = USB INTEGRATED WP = WEATHER PROOF, GFCI
	+42"		RECEPTACLE WITH MOUNTING HEIGHT, TYPE AS NOTED ON PLANS
			FLOOR RECEPTACLE, TYPE AS NOTED ON PLANS
	$x		SINGLE POLE SWITCH- "x" = SEE INDEX BELOW SWITCH SUBSCRIPT INDEX: BLANK = SINGLE POLE SWITCH 2 = DOUBLE POLE SWITCH 3 = THREE WAY SWITCH 4 = FOUR WAY SWITCH b = "b" DENOTES SWITCH LEG CONTROLLED D = DIMMER SWITCH K = KEY OPERATED SWITCH M = MANUAL MOTOR STATER
OS			CEILING MOUNTED OCCUPANCY SENSOR
PC			PHOTO CONTROL SENSOR
J	J	J	JUNCTION BOX * FOR WALL MTD.
			DISCONNECT SWITCH, NON-FUSIBLE, SEE PLANS FOR RATING
			DISCONNECT SWITCH, FUSIBLE, SEE PLANS FOR RATING
			CONTROLLER/STARTER FURNISHED WITH EQUIPMENT
	X / Y		DETAIL CALL-OUT: X, DETAIL IDENTIFIER; Y, SHEET WHERE DETAIL IS DRAWN **
	GW		GROUND ROD, 3/4" x 10'-0" GW NEXT TO SYMBOL INDICATES GROUND ROD IN HANDHOLE (SEE DETAIL X/XX)

NOTE: NOT ALL SYMBOLS SHOWN ARE USED ON PLANS

POWER WIRE COLOR CODE

SYSTEM	PHASE A	PHASE B	PHASE C	NEUTRAL	GROUND
208Y/120V	BLACK	RED	BLUE	WHITE	GREEN
240Y/120V	BLACK	RED	----	WHITE	GREEN
240V	BLACK	RED	BLUE	WHITE	GREEN

POWER WIRE SPECIFICATIONS

1. COPPER CONDUCTORS WITH THHN/THWN INSULATION, UON

APPLICABLE CODES

THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS INCLUDING BUT NOT LIMITED TO THE LATEST ADOPTED EDITIONS OF:

2022 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE
PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)

2022 CALIFORNIA BUILDING CODE (CBC)
PART 2, TITLE 24, CCR
BASED ON THE 2021 INTERNATIONAL BUILDING CODE (IBC)

2022 CALIFORNIA ELECTRICAL CODE (CEC)
PART 3, TITLE 24 CCR
BASED ON THE 2020 NATIONAL ELECTRICAL CODE (NEC)

2022 CALIFORNIA FIRE CODE (CFC)
PART 9, TITLE 24,
BASED ON THE 2021 INTERNATIONAL FIRE CODE (IFC)

ELECTRICAL SYMBOLS - PLANS (CONTINUED)

PB	PULLBOX, SIZE AS NOTED
	FEEDER DESIGNATION SEE SCHEDULE OR ONE LINE DIAGRAM FOR SIZE
	CONDUIT CONCEALED IN WALLS OR CEILING 3/4"C-2#12, 1#12G, UON
	CONDUIT UNDER GROUND 3/4"C-2#12, 1#12G, UON
	CONDUIT EXPOSED 3/4"C-2#12, 1#12G, UON
	QUANTITY #12 WIRE DOT ON LINE INDICATES GROUND WIRE
#10	WIRE SIZE OTHER THAN #12 CURVE LINE INDICATES GROUND WIRE
G	GROUNDING CONDUCTOR 30" BELOW GRADE, #4/0 UON
G	EXOTHERMIC WELD CONNECTION
A-1,3	HOMERUN TO PANEL A, CIRCUIT 1 AND 3
	CONDUIT BENDS TOWARD OBSERVER
	CONDUIT BENDS AWAY FROM OBSERVER
	CONDUIT STUB-OUT AND CAPPED
	DISCONNECTS OR COMBINATION STARTERS SERVING EQUIPMENT SHOWN. PROVIDE CONNECTING FEEDERS BETWEEN DEVICES, SIZE TO MATCH SERVING FEEDER.
	POWER DISTRIBUTION SWITCHBOARD
	SURFACE MOUNTED PANELBOARD
	SHEET NOTE, SEE NOTE INDICATED

ELECTRICAL SYMBOLS - ONE LINE DIAGRAM

M	UTILITY METERING
	TRANSFORMER
	FEEDER DESIGNATION SEE SCHEDULE OR ONE LINE DIAGRAM FOR SIZE
30A MCP	CIRCUIT BREAKER, 3 POLE UNLESS NOTED MCP INDICATES MOTOR CIRCUIT PROTECTOR
	DISCONNECT SWITCH, NON-FUSIBLE, SEE PLANS FOR RATING
	DISCONNECT SWITCH, FUSIBLE, SEE PLANS FOR RATING
10	MOTOR, 10 HORSEPOWER
	GROUND
	DELTA CONNECTION
A	WYE CONNECTION
VFD	VARIABLE FREQUENCY DRIVE

ELECTRICAL SYMBOLS COMMON (CONTINUED)

3/4"C-3/C#14	SINGLE RUN OF RACEWAY AND MULTI-CONDUCTOR CABLE. FIRST NUMBER IS RACEWAY SIZE. THE FOLLOWING NUMBERS ARE THE CONDUCTOR QUANTITIES AND SIZE FOR THE MULT-CONDUCTOR CABLE
(W)(X"C-Y/C#Z)	MULTIPLE RUNS OF RACEWAY AND MULTI-CONDUCTOR CABLE W = # OF PARALLEL RUNS X = CONDUIT SIZE Y = # OF CONDUCTORS IN EACH CABLE Z = CONDUCTOR SIZE EXAMPLE: (2)(3/4"C-3/C#14) INDICATES TWO 3/4" CONDUITS EA. WITH A 3/C#14 MULTI-CONDUCTOR CABLE.
	INTERCEPTION POINT DEMO PLANS: EXISTING TO REMAIN TO EXISTING TO BE REMOVED. NEW PLANS: EXISTING TO NEW

ELECTRICAL SYMBOLS COMMON

(AIP)	ABANDON IN PLACE. (D) ABOVE GROUND CONDUITS & CONNECTORS DOWN TO 3" BELOW GROUND LEVEL. REMOVE AND (D) CONDUCTORS IN UG CONDUITS. PLUG UG CONDUITS AND ABANDON IN PLACE.
(D)	EXISTING TO BE DEMOLISHED
(E)	EXISTING TO REMAIN
(RL)	DEMO PLANS:EXISTING TO BE RELOCATED. NEW PLANS-FINAL LOCATION OF RELOCATED EQUIPMENT.
(RS)	EXISTING TO BE REMOVED AND SALVAGED
(RP)	EXISTING TO BE REMOVED AND REPLACED WITH NEW
1"C-2#12, 1#12G	SINGLE RUN OF RACEWAY AND CIRCUIT CONDUCTORS. FIRST NUMBER IS RACEWAY SIZE. THE FOLLOWING NUMBERS ARE THE CONDUCTOR QUANTITIES AND SIZES.
(U)V"C-W#X, Y#Z	MULTIPLE RUNS OF RACEWAY AND CIRCUIT CONDUCTORS U = # OF PARALLEL RUNS V = CONDUIT SIZE W = # OF PHASE/NEUTRAL CONDUCTORS IN EACH CONDUIT X = PHASE/NEUTRAL CONDUCTOR SIZE Y = #OF GROUND CONDUCTORS IN EACH CONDUIT Z = GROUND CONDUCTOR SIZE EXAMPLE: (2)3/4"C-2#12-1#12G INDICATES TWO 3/4" CONDUITS EACH WITH 2#12 AND 1#12G CONDUCTORS

ELECTRICAL NOTES

1. THE CONTRACTOR SHALL VISIT JOB SITE AND VERIFY CONDITIONS BEFORE BIDDING.
2. THE FACILITY SHALL REMAIN IN OPERATION DURING ALL PHASES OF WORK. WHERE SYSTEM SHUTDOWNS AND POWER OUTAGES ARE UNAVOIDABLE, SUCH WORK SHALL BE SCHEDULED WITH THE FACILITY MANAGER AND SHALL OCCUR AT SUCH TIMES AS TO CAUSE THE LEAST DISRUPTION OF NORMAL FACILITY FUNCTION. INCLUDE ALL PREMIUM LABOR IN BID PROPOSAL TO COVER WORK REQUIRED TO BE PERFORMED BEFORE OR AFTER "NORMAL" WORKING HOURS.
3. COORDINATE SEQUENCE OF WORK WITH OWNER. MAKE ALL NECESSARY CONNECTIONS AS REQUIRED TO MAINTAIN POWER DURING THE STAGES OF WORK.
4. EXISTING DEVICES SHOWN WERE TAKEN FROM EXISTING DRAWINGS (NOT "AS BUILT" DRAWINGS) AND LIMITED SITE SURVEYS AND MAY NOT BE EXACTLY AS SHOWN. CONTRACTOR SHALL VISIT JOB SITE AND VERIFY CONDITIONS PRIOR TO BIDDING.
5. REFER TO THOSE DRAWINGS SHOWING OTHER WORK, AND COORDINATE PLACEMENT OF WORK WITH THAT OF OTHER TRADES. REPORT ANY CONFLICT TO ARCHITECT PRIOR TO INSTALLATION OF WORK, ADJUST WORK AS DIRECTED BY ARCHITECT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING NEW FIRE STOPPING OF ALL NEW OR EXISTING CONDUIT OR CABLE PENETRATIONS IN NEW OR EXISTING FIRE RATED WALLS WITHIN THE LIMITS OF WORK. EXISTING AND NEW WIRING UTILIZING AN EXISTING CONDUIT WITH EXISTING FIRE STOPPING WITH NO VISUAL DAMAGE DOES NOT REQUIRE NEW FIRE STOPPING. IF CONTRACTOR OBSERVES EXISTING PENETRATIONS IN RATED WALLS WITHOUT FIRE STOPPING OR ARE OBVIOUSLY OUT OF COMPLIANCE WITHIN THE PROJECT AREA, THEN THESE PENETRATIONS WILL NEED TO BE PROVIDED WITH FIRE STOPPING ASSEMBLY PER LATEST CODE REQUIREMENT.
7. PROVIDE UPDATED TYPE WRITTEN PANEL INDEXES FOR ALL MODIFIED PANELS ON THIS PROJECT.

ELECTRICAL DEMOLITION NOTES

1. DEMOLITION DRAWINGS ARE BASED ON VISUAL OBSERVATION AND EXISTING RECORD DOCUMENTS. REPORT DISCREPANCIES TO ARCHITECT BEFORE DISTURBING EXISTING INSTALLATION.
2. DISCONNECT ELECTRICAL SYSTEMS IN WALLS, FLOORS, AND CEILINGS SCHEDULED FOR REMOVAL.
3. PROVIDE TEMPORARY WIRING AND CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION.
4. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION. REPAIR ADJACENT CONSTRUCTION AND FINISHES DAMAGED DURING DEMOLITION AND EXTENSION WORK. REMOVE EXPOSED ABANDONED WIRE AND CABLE. PATCH SURFACES WHERE REMOVED CABLES PASS THROUGH BUILDING FINISHES.
5. DISCONNECT ABANDONED CIRCUITS, OUTLETS AND REMOVE CIRCUIT, DEVICES, WIRE AND CABLE. REMOVE ABANDONED BOXES, OUTLETS IF RACEWAY, WIRE AND CABLE SERVICING THEM IS ABANDONED AND REMOVED. PROVIDE BLANK COVER FOR ABANDONED BOXES WHICH ARE NOT REMOVED.
6. ENSURE ACCESS TO EXISTING BOXES, WIRING CONNECTIONS AND OTHER INSTALLATIONS WHICH ARE TO REMAIN ACTIVE AND WHICH REQUIRE ACCESS. MODIFY INSTALLATION OR PROVIDE ACCESS PANEL AS APPROPRIATE.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
6	SHEET NOTE REFERENCE
	CONDUIT BELOW FLOOR OR GRADE, RIGID PVC
	EXISTING CONDUIT, WIRE AND EQUIPMENT
	EXISTING CONDUIT, WIRE AND EQUIPMENT TO BE REMOVED
	TRANSFORMER
	GROUND
	SERVICE DISCONNECT
M	MOTOR

ELECTRICAL ABBREVIATIONS

ABBREVIATION	DESCRIPTION
A	AMPERES
C	CONDUIT
CU	COPPER
DEMO	DEMOLITION
(E)	EXISTING
FLA	FULL LOAD AMPS
G, GND	GROUND
GFCI, GFI	GROUND FAULT CIRCUIT INTERRUPTER
J-BOX	JUNCTION BOX
KVA	KILOVOLT AMPERE
KW	KILOWATT
LV	LOW VOLTAGE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERES
MIN	MINIMUM
MSB	MAIN SWITCHBOARD
POC	POINT OF CONNECTION
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLT
WP	WEATHER PROOF

GENERAL NOTES

THE ELECTRICAL INSTALLATION FOR THIS PROJECT SHALL CONFORM TO THE LATEST ADOPTED VERSION OF THE CEC, AS WELL AS ALL APPLICABLE LOCAL AND STATE CODES.

DO NOT USE THIS DRAWING FOR DIMENSIONING. ALL MEASUREMENTS AND DIMENSIONS SHOULD BE FIELD VERIFIED.

ALL NEW ELECTRICAL MATERIAL SHALL BE UL OR CSA LISTED FOR THE SPECIFIC USE.

ALL WIRE TO BE COPPER, THHN/THWN-2 75 DEGREE C RATED.

ALL CONDUIT TO BE SCHEDULE 40 PVC.

REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

DESCRIPTION OF WORK

THIS PROJECT PROVIDES A NEW 200A SERVICE PEDESTAL METER/MAIN PANEL WITH CIRCUIT BREAKERS FOR PARKING LOT LIGHTING, WALKWAY LIGHTING AND FUTURE SPORTS FIELD LIGHTING, BASKETBALL COURT AND TENNIS COURT LIGHTING. THIS PROJECT ALSO INCLUDES THE INSTALLATION OF CONDUIT AND PULL BOXES FOR THE FUTURE COURTS AND SPORTS FIELD LIGHTING.

INDEX OF SHEETS

ELECTRICAL:

SHEET	DRAWING	TITLE
1	E001	ELECTRICAL SYMBOLS, NOTES & ABBREVIATIONS
2	E002	ONE LINE DIAGRAM. PANEL SCHEDULES, LIGHTING FIXTURE SCHEDULE
3	E101	ELECTRICAL DEMOLITION PLAN
4	E201	ELECTRICAL LAYOUT PLAN
5	E202	ELECTRICAL LAYOUT PLAN & ENLARGED ELECTRICAL LAYOUT PLAN
6	E501	ELECTRICAL DETAILS
7	E601	TITLE 24 COMPLIANCE – OUTDOOR LIGHTING
8	E701	PHOTOMETRIC LIGHTING PLAN
9	E801	MUSCO FIELD AND COURT LIGHTING DESIGN
10	E802	MUSCO FIELD AND COURT LIGHTING DESIGN
11	E803	MUSCO FIELD AND COURT LIGHTING DESIGN
12	E804	MUSCO FIELD AND COURT LIGHTING DESIGN
13	E805	MUSCO FIELD AND COURT LIGHTING DESIGN
14	E806	MUSCO FIELD AND COURT LIGHTING DESIGN
15	E807	MUSCO FIELD AND COURT LIGHTING DESIGN
16	E808	MUSCO FIELD AND COURT LIGHTING DESIGN
17	E809	MUSCO FIELD AND COURT LIGHTING DESIGN
18	E810	MUSCO FIELD AND COURT LIGHTING DESIGN
19	E811	MUSCO FIELD AND COURT LIGHTING DESIGN

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CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK (LI9300002)

ELECTRICAL SYMBOLS, NOTES & ABBREVIATIONS

DESIGN BY: Stantec

DATE 05.01.2023

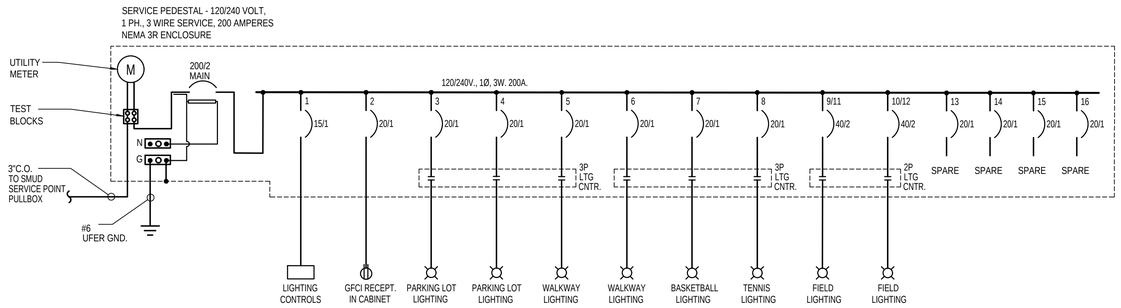
SCALE AS NOTED

P. N. L19-3000-02

REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
E001 of XX
1



2 / E002 ONE LINE DIAGRAM - 200A. SERVICE - PANEL 1

SCALE: NONE

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER/ CATALOG NO.	VOLTS	DRIVER TYPE	KELVIN TEMPERATURE	CRI	FIXTURE WATTAGE	MOUNTING	DESCRIPTION
A	PHILIPS - GARDCO GL18-MRI-1-4-80LA-4853-NW-BLP	120	530mA	4000K	80 CRI	80W	POLE MOUNTED	POLE MOUNTED SINGLE HEAD LED LUMINAIRE SSP-15-4.0-11-BLK-SBP-8"-9 1/2"
A1	PHILIPS - GARDCO GL18-MRI-1-4-80LA-4853-NW-BLP	120	530mA	4000K	80 CRI	80W X 2	POLE MOUNTED	POLE MOUNTED DOUBLE HEAD LED LUMINAIRE SSP-15-4.0-11-BLK-SBP-8"-9 1/2"
B	CREE INC. BX DPT A SB FR A-30K-UL UF	120	LED	3000K	80 CRI	34W	POLE MOUNTED 12'-0"	CITY OF SACRAMENTO ORNAMENTAL POST TOP, STYLE 1, VIRGIN ACRYLIC LENS
C	EXCELLENCE OPTO ESU-EA013M03240M-150	120	LED	3000K	80 CRI	162W	POLE MOUNTED	CITY OF SACRAMENTO TYPE A COBRAHEAD LED. 30' POLE.

TITLE 24 EXEMPTION NOTE

SECTION 140.7 - PRESCRIPTIVE REQUIREMENTS FOR OUTDOOR LIGHTING

(a) AN OUTDOOR LIGHTING INSTALLATION COMPLIES WITH SECTION 140.7(a) IF IT MEETS THE REQUIREMENTS IN SUB-SECTIONS (b) AND (c), AND THE ACTUAL OUTDOOR LIGHTING POWER INSTALLED IS NO GREATER THAN THE ALLOWED OUTDOOR LIGHTING POWER CALCULATED UNDER SUB-SECTION (d). THE ALLOWED OUTDOOR LIGHTING SHALL BE CALCULATED ACCORDING TO OUTDOOR LIGHTING ZONE IN TITLE 24, PART 1, SECTION 10-114.

EXEMPTIONS TO SECTION 140.7(a): WHEN MORE THAN 50 PERCENT OF THE LIGHT FROM A LUMINAIRE FALLS WITHIN ONE OR MORE OF THE FOLLOWING APPLICATIONS, THE LIGHTING POWER FOR THAT LUMINAIRE SHALL BE EXEMPT FROM SECTION 140.7:

1. LIGHTING FOR SPORTS AND ATHLETIC FIELDS AND CHILDREN'S PLAYGROUNDS.

SHEET NOTES

1. NOTES
2.
3.

NAMEPLATE: PANEL XX | **BLDG:** | **LOC:** | ELECTRICAL ROOM XXXX

ENCLOSURE: NEMA-1 | **MTG:** XXX | **AICS RATING:** | 10,000 AIC

MAIN: CB OR MLO | **BUS AMPS:** XXX | **VOLTS:** | 120/240, 1P, 3W

CKT NO	CIRCUIT DESCRIPTION	CB	POLES	TYPE	KVA	A		B	KVA	TYPE	POLE	CB	CIRCUIT DESCRIPTION	CKT NO.
1	RECEPTACLES	20	1	R	1.08	1.98			0.90	R	1	20	RECEPTACLES	2
3	EXHAUST FAN	20	1	NC	1.50				0.50	L	1	20	LIGHTING	4
5	LIGHTING	20	1	L	1.20			1.20			1	20	EXHAUST FAN	6
7	COMPUTER	20	1	C	1.20	2.20			1.00	M	1	20	HVAC	8
9		20	1						1.00	M	1	20	HVAC	10
11		20	1					1.00	1.00	M	1	20	HVAC	12
13		20	1	M	1.00	1.00					1	20	SPARE	14
15		20	1	M	1.00						1	20	SPARE	16
17		20	1	M	1.00			1.00			1	20		18
19		20	1			0.00					1	20		20
21		20	1								1	20		22
23	HVAC	30	2	M	1.00			2.00	1.00	M	2	20	HVAC	24
25		-	-	M	1.00	2.00			1.00	M	-	-		26
27		20	1								1	20		28
29		20	1					0.00			1	20		30
31		20	1			0.00					1	20		32
33		20	1								1	20		34
35		20	1					0.00			1	20		36
37		20	1			0.00					1	20		38
39		20	1								1	20		40
41		20	1					0.00			1	20		42
	CONNECTED KVA PER PHASE					7.18	0.00	5.20						

LOAD SUMMARY (KVA)		CONN.	FACTOR	DEMAND
R	RECEPTACLES (FIRST 10 KVA)	1.98	100%	1.98
R	RECEPTACLES (OVER 10 KVA)	0.00	50%	0.00
NC	NON-CONTINUOUS LOADS	1.50	100%	1.50
C	CONTINUOUS LOADS	1.20	125%	1.50
L	LIGHTING	1.70	125%	2.13
M	MOTOR +25% LARGEST MOTOR	9.00	100%	9.00
	TOTAL	15.38		16.11
TOTAL DEMAND LOAD AMPS				67.10

PNL XX

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DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814
City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK (LI9300002)

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK

ONE LINE DIAGRAM, PANEL SCHEDULES AND LIGHT FIXTURE SCHEDULE

DESIGN BY: Stantec

DATE 05.01.2023

SCALE AS NOTED

P. N. L19-3000-02

REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO. E002XX

SHEET NOTES

1. EXISTING STREET LIGHT POLE TO REMAIN.
2. DEMOLISH EXISTING FIELD LIGHT POLE AND PULL BOX. REMOVE EXISTING CONDUCTORS AND ABANDON EXISTING CONDUIT.
3. DEMOLISH EXISTING SCOREBOARD AND PULL BOX. REMOVE EXISTING CONDUCTORS AND ABANDON EXISTING CONDUIT.

1 ELECTRICAL DEMOLITION PLAN
SCALE: 1" = 30'-0"

SEE DRAWING E001 FOR GENERAL NOTES

SEE DRAWING E001 FOR DEMOLITION NOTES AND LEGENDS

UTILITY NOTE:
EXISTING UTILITIES SHOWN HEREIN ARE APPROXIMATE ONLY AND MAY NOT SHOW ALL EXISTING FACILITIES WITHIN THE PROJECT AREA. CONTRACTOR MUST FIELD VERIFY AND POTHOLE EXISTING UTILITIES WITHIN THE PROJECT AREA PRIOR TO BEGINNING CONSTRUCTION. ALL EXISTING UTILITIES MUST BE PROTECTED IN PLACE DURING CONSTRUCTION.

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DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK (L19300002)

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
ELECTRICAL DEMOLITION PLAN

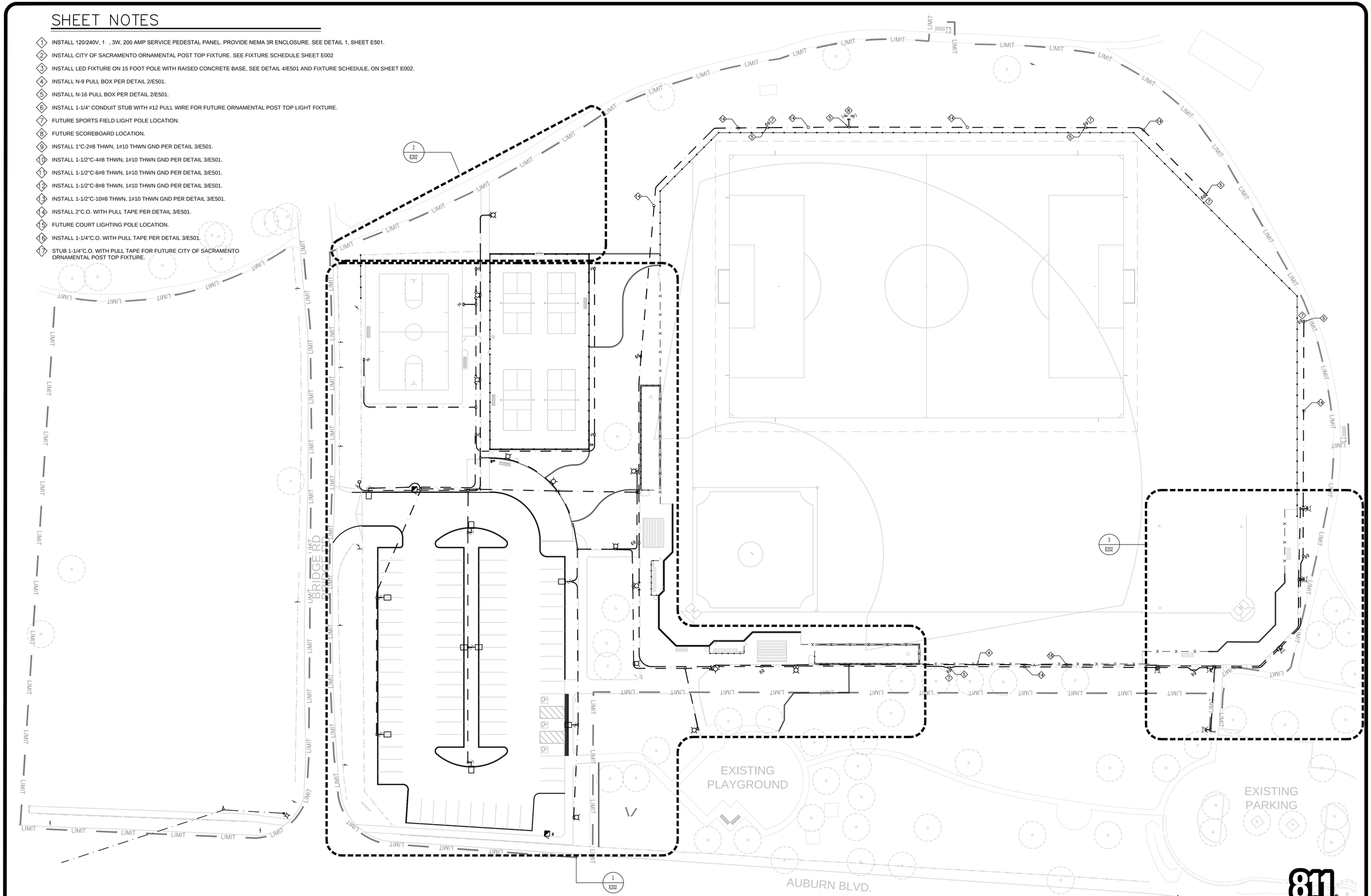
DESIGN BY: Stantec
DATE 05.01.2023
SCALE 1" = 30'-0"
P. N. L19-3000-02
REVISIONS

PRELIMINARY
NOT FOR CONSTRUCTION

SHEET NO.
E101 of XX
1

SHEET NOTES

1. INSTALL 120/240V, 1 , 3W, 200 AMP SERVICE PEDESTAL PANEL. PROVIDE NEMA 3R ENCLOSURE. SEE DETAIL 1, SHEET E501.
2. INSTALL CITY OF SACRAMENTO ORNAMENTAL POST TOP FIXTURE. SEE FIXTURE SCHEDULE SHEET E002
3. INSTALL LED FIXTURE ON 15 FOOT POLE WITH RAISED CONCRETE BASE, SEE DETAIL 4/E501 AND FIXTURE SCHEDULE, ON SHEET E002.
4. INSTALL N-9 PULL BOX PER DETAIL 2/E501.
5. INSTALL N-16 PULL BOX PER DETAIL 2/E501.
6. INSTALL 1-1/4" CONDUIT STUB WITH #12 PULL WIRE FOR FUTURE ORNAMENTAL POST TOP LIGHT FIXTURE.
7. FUTURE SPORTS FIELD LIGHT POLE LOCATION.
8. FUTURE SCOREBOARD LOCATION.
9. INSTALL 1"C-2#8 THWN, 1#10 THWN GND PER DETAIL 3/E501.
10. INSTALL 1-1/2"C-4#8 THWN, 1#10 THWN GND PER DETAIL 3/E501.
11. INSTALL 1-1/2"C-6#8 THWN, 1#10 THWN GND PER DETAIL 3/E501.
12. INSTALL 1-1/2"C-8#8 THWN, 1#10 THWN GND PER DETAIL 3/E501.
13. INSTALL 1-1/2"C-10#8 THWN, 1#10 THWN GND PER DETAIL 3/E501.
14. INSTALL 2"C.O. WITH PULL TAPE PER DETAIL 3/E501.
15. FUTURE COURT LIGHTING POLE LOCATION.
16. INSTALL 1-1/4"C.O. WITH PULL TAPE PER DETAIL 3/E501.
17. STUB 1-1/4"C.O. WITH PULL TAPE FOR FUTURE CITY OF SACRAMENTO ORNAMENTAL POST TOP FIXTURE.



1 ELECTRICAL OVERALL SITE PLAN
SCALE: 1" = 30'-0"

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CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK (LI9300002)

ELECTRICAL LAYOUT PLAN

DESIGN BY: Stantec
DATE 05.01.2023
SCALE 1" = 30'-0"
P. N. L19-3000-02
REVISIONS

PRELIMINARY
NOT FOR CONSTRUCTION

SHEET NO.
E201 of XX
1

MATCHLINE SEE THIS SHEET BELOW

MATCHLINE SEE SHEET E201

SECONDARY SERVICE POINT PULLBOX - CONTRACTOR TO VERIFY EXACT LOCATION WITH SMUD. NEW 3"C.-3#4/0, 1#6 GND FOR NEW 200A SERVICE TO METER / MAIN @ ELECTRIC SERVICE PANEL.

A LED (TYP. OF 6)

B LED (TYP. OF 15)

A1 LED

EXISTING PLAYGROUND

BRIDGE RD

LIMIT

1 ENLARGED PARTIAL ELECTRICAL LAYOUT PLAN

SCALE: 1" = 20'-0"

MATCHLINE SEE SHEET E201

SHEET NOTES

1. INSTALL 120/240V, 1 , 3W, 200 AMP SERVICE PEDESTAL PANEL. PROVIDE NEMA 3R ENCLOSURE. SEE DETAIL 1, SHEET E501.
2. INSTALL CITY OF SACRAMENTO ORNAMENTAL POST TOP FIXTURE. SEE FIXTURE SCHEDULE SHEET E002
3. INSTALL LED FIXTURE ON 15 FOOT POLE WITH RAISED CONCRETE BASE, SEE DETAIL 4/E501 AND FIXTURE SCHEDULE, ON SHEET E002.
4. INSTALL N-9 PULL BOX PER DETAIL 2/E501.
5. INSTALL N-16 PULL BOX PER DETAIL 2/E501.
6. INSTALL 1-1/4" CONDUIT STUB WITH #12 PULL WIRE FOR FUTURE ORNAMENTAL POST TOP LIGHT FIXTURE.
7. FUTURE SPORTS FIELD LIGHT POLE LOCATION.
8. FUTURE SCOREBOARD LOCATION.
9. INSTALL 1"C-2#8 THWN, 1#10 THWN GND PER DETAIL 3/E501.
10. INSTALL 1-1/2"C-4#8 THWN, 1#10 THWN GND PER DETAIL 3/E501.
11. INSTALL 1-1/2"C-6#8 THWN, 1#10 THWN GND PER DETAIL 3/E501.
12. INSTALL 1-1/2"C-8#8 THWN, 1#10 THWN GND PER DETAIL 3/E501.
13. INSTALL 1-1/2"C-10#8 THWN, 1#10 THWN GND PER DETAIL 3/E501.
14. INSTALL 2"C.O. WITH PULL TAPE PER DETAIL 3/E501.
15. FUTURE COURT LIGHTING POLE LOCATION.
16. INSTALL 1-1/4"C.O. WITH PULL TAPE PER DETAIL 3/E501.
17. STUB 1-1/4"C.O. WITH PULL TAPE FOR FUTURE CITY OF SACRAMENTO ORNAMENTAL POST TOP FIXTURE.

MATCHLINE SEE THIS SHEET ABOVE

2 ENLARGED PARTIAL ELECTRICAL LAYOUT PLAN

SCALE: 1" = 20'-0"

MATCHLINE SEE SHEET E201

MATCHLINE SEE SHEET E201

3 ENLARGED PARTIAL ELECTRICAL LAYOUT PLAN

SCALE: 1" = 20'-0"

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DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
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City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (L19300002)

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK

ELECTRICAL LAYOUT PLAN & ENLARGED ELECTRICAL LAYOUT PLAN

DESIGN BY: Stantec

DATE 05.01.2023

SCALE AS NOTED

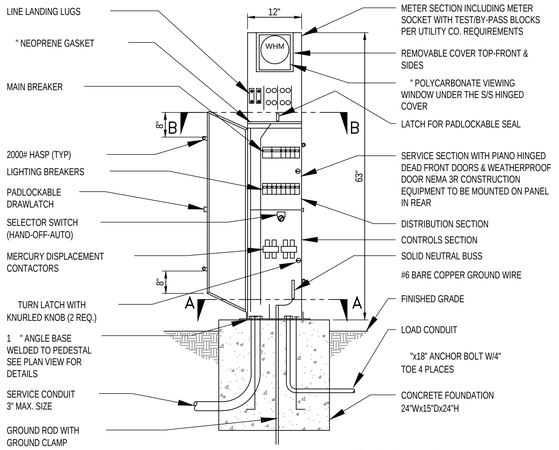
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REVISIONS

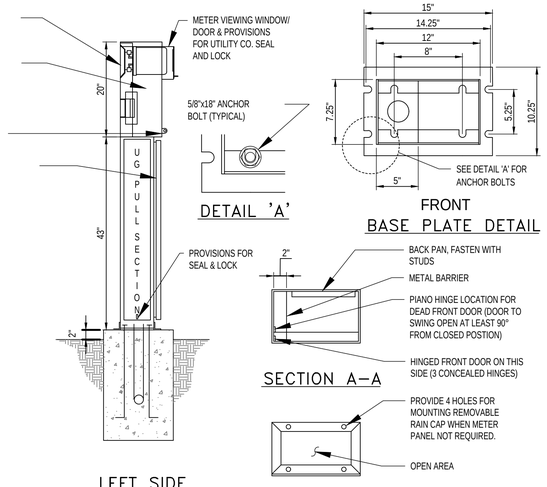
PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.

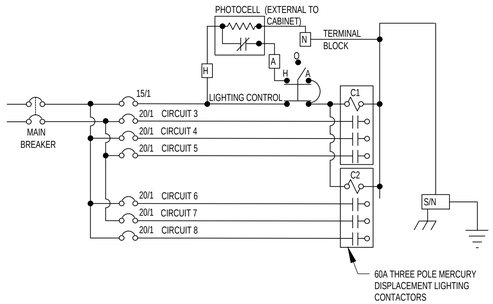
E202 of XX
1



FRONT VIEW



LEFT SIDE



120V LIGHTING CONTROL WIRING SCHEMATIC DIAGRAM

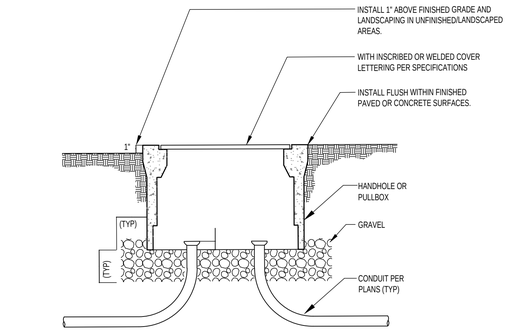
1. EXTERIOR 14 GAUGE #304D STAINLESS STEEL, INTERIOR DEAD FRONT PANEL AND BACK PAN SHALL BE 14 GAUGE STEEL PAINTED WHITE ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.
2. CONSTRUCTION IS NEMA 3R AND 12, RAINTIGHT AND DUSTTIGHT.
3. ALL NUTS, BOLTS, SCREWS AND HINGES SHALL BE STAINLESS STEEL.
4. NUTS, BOLTS & SCREWS ARE NOT USED ON THE OUTSIDE OF PEDESTAL.
5. PHENOLIC NAMEPLATES TO IDENTIFY ALL OPERATOR CONTROLS
6. CONTROL WIRING WILL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.
7. A PLASTIC COVERED WIRING DIAGRAM WILL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.
8. PEDESTAL WILL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA STANDARDS.
9. PEDESTAL(S) WILL BE U.L. LISTED AS INDUSTRIAL CONTROL PANELS U.L. 508 FILE NO. E62062
10. WIRING BETWEEN CIRCUIT BREAKER AND CONTACTOR SHALL BE A #6 THWN OR THHN MINIMUM.
11. SERVICE SHALL BE OF TWO PIECE CONSTRUCTION.
12. SEE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.

CITY OF SACRAMENTO
SIGNAL, LIGHTING AND ELECTRICAL SYSTEMS
METERED SERVICE PEDESTAL(120/240)
NO SCALE

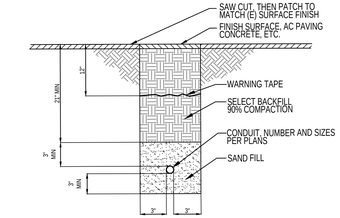
SECTION 86–2.11 SL–9

500C12

1 E501 SERVICE PEDESTAL DETAIL
SCALE: NONE



2 E501 PULL BOX DETAIL
SCALE: NONE



NOTE: WIDEN OR DEEPEN TRENCH TO ACCOMMODATE ALL CONDUITS/CONDUCTORS SHOWN ON THE SITE PLANS, MAINTAIN THE DIMENSIONS SHOWN FOR SAND FILL AND DEPTH TO TOP OF CONDUITS.

3 E501 TRENCH DETAIL
SCALE: NONE

4 E501 POLE BASE DETAIL
SCALE: NONE

NOTES:
1. EQUIPMENT BASE TOP SHALL BE LEVEL.
2. PRIOR TO EQUIPMENT BASE INSTALLATION, COMPACT SOIL UNDER AND 8" BEYOND THE BASE TO 95% RELATIVE COMPACTION.

5 E501 EQUIPMENT BASE DETAIL
SCALE: NONE

811 Know what's below. Call before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION (L19300002)
DEL PASO REGIONAL PARK

ELECTRICAL DETAILS

DESIGN BY: Stantec
DATE 05.01.2023
SCALE AS NOTED
P. N. L19-3000-02
REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
E501 of XX
1

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: Del Paso Park	**Report Page:** (Page 1 of 7)
Project Address:	**Date Prepared:** 2023-06-19T12:38:12-04:00

This document is used to demonstrate compliance with requirements in 110.9, 130.0, 130.2, 140.7, and 141.0(b)2L for outdoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e)6, 180.1(a) and 180.2(b)4Bv for outdoor lighting scopes using the prescriptive path for multifamily and mixed-use occupancies. Multifamily includes dormitory and senior living facilities.

A. GENERAL INFORMATION

01	Project Location (city)	Sacramento	04	Total Illuminated Hardscape Area (ft²)	30347
02	Climate Zone	12			
03	Outdoor Lighting Zone per Title 24 Part 1 10.114 or as designated by Authority Having Jurisdiction (AHJ):				
☐	LZ-0: Very Low - Undeveloped Parkland	☒ LZ-2: Moderate - Urban Clusters	☐ LZ-4: High - Must be reviewed by CA Energy Commission for Approval		
☐	LZ-1: Low - Rural Areas	☐ LZ-3: Moderately High - Urban Areas			
05	Occupancy Types within Project				
● All Other Occupancies					

B. PROJECT SCOPE

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv for alterations.

My Project Consists of:

01	02
☒ New Lighting System	Must Comply with Allowances from 140.7 / 170.2(e)6
☐ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)? ○ Yes ○ No

03	04	05
% of Existing Luminaires Being Altered[1]	Sum Total of Luminaires Being Added or Altered	Calculation Method
☐ < 10% ☐ >= 10% and < 50% ☐ >= 50%		

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.

[1] *FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.*

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through N. Note: if any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

Calculations of Total Allowed Lighting Power (Watts) 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv | **Compliance Results**

01		02		03		04		05		06		07		08	09
General Hardscape Allowance 140.7(d)1 / 170.2(e)6 (See Table I)	+	Per Application 140.7(d)2 / 170.2(e)6 (See Table J)	+	Sales Frontage 140.7(d)2 (See Table K)	+	Ornamental 140.7(d)2 / 170.2(e)6 (See Table L)	+	Per Specific Area 140.7(d)2 / 170.2(e)6 (See Table M)	OR	Existing Power Allowance 141.0(b)2L / 180.2(b)4Bv (See Table N)	=	**Total Allowed** (Watts)	≥	**Total Actual** (Watts)	**07 must be >= 08**
894.79	+	---	+	---	+	---	+	---	OR	---	=	894.79	≥	720	COMPLIES

Shielding Compliance (See Table G for Details)	N/A
Controls Compliance (See Table H for Details)	COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with 140.7 / 170.2(e)6 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per 141.0(b)2L only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included). Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1, 2]	How is Wattage determined	Total Number Luminaires[2]	Luminaire Status[3]	Excluded per 140.7(a) / 170.2(e)6A	Design Watts	Cutoff Req. > 6,200 initial lumen output 130.2(b) / 160.5(c)[4]	Field Inspector	
										Pass	Fail
A	Pole mounted single LED luminaire, 17'-6" Mounting Height	☐ Linear	80	Mfr. Spec	7	New	☐	560	NA: Illuminate public right-of-way	☐	☐
A1	Pole mounted double LED luminaire, 17'-6" Mounting Height	☐ Linear	160	Mfr. Spec	1	New	☐	160	NA: Illuminate public right-of-way	☐	☐
							Total Design Watts:	720			

* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.
EX: Luminaire is lighting a statue; EXCEPTION 2 to 130.2(b)

[1] *FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b)*
[2] *For linear luminaires, wattage should be indicated as W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.*
[3] *Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.*
[4] *Compliance with mandatory shielding requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by 130.2(b)/ 160.5(c)*

G. SHIELDING REQUIREMENTS (BUG)

This section does not apply to this project.

H. OUTDOOR LIGHTING CONTROLS

This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
Outdoor lighting for nonresidential buildings, parking garages and common service areas in multifamily buildings must be documented separately from outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit

Mandatory Controls for Nonresidential Occupancies, Parking Garages & Common Areas in Multifamily Buildings

01	02	03	04	05	
Area Description	Shut-Off 130.2(c)1 / 160.5(c)	Auto-Schedule 130.2(c)2 / 160.5(c)	Motion Sensor 130.2(c)3 / 160.5(c)	Field Inspector	
				Pass	Fail
PARKING LOT: "A"	Astronomical Timer	Provided	Provided	☐	☐
PARKING LOT: "A1"	Astronomical Timer	Provided	Provided	☐	☐

[1] *FOOTNOTE: Text has been abbreviated, please refer to Table 160.5-A to confirm compliance with the specific light source technologies listed.*
[2] *Authority having jurisdiction may ask for cutsheets or other documentation to confirm compliance of light source.*
[3] *Recessed luminaires marked for use in fire-rated installations, and recessed luminaires installed in non-insulated ceilings are excepted from ii and iii.*

I. LIGHTING POWER ALLOWANCE (per 140.7 / 170.2(e))

This table includes areas using allowance calculations per 140.7 / 170.2(e). General Hardscape Allowance is per Table 140.7-A/Table 170.2-R while "Use it or lose it" Allowances are per Table 140.7-B /Table 170.2-S. Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance.
Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

	01				
		"Use it or lose it" Allowance (select all that apply) (select all that apply)			
☒ General Hardscape Allowance Table I (below)	☐ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☐ Per Specific Area Table M	

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A for Nonresidential & Hotel/Motel

02	03	04	05	06	07	08	09
Area Description	Area Wattage Allowance (AWA)			Linear Wattage Allowance (LWA)			Total General AWA + LWA (Watts)
	Illuminated Area (ft²)	Allowed Density (W/ft²)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	
PARKING LOT	30347	0.019	576.59	788	0.15	118.2	694.79

Initial Wattage Allowance for Entire Site (Watts):	200
Instances of Initial Wattage Allowance (LZ 0 only)[1]	
Total General Hardscape Allowance (Watts):	894.79

J. LIGHTING ALLOWANCE: PER APPLICATION

This section does not apply to this project.

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This section does not apply to this project.

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTO-E - Must be submitted for all buildings

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.	PARKING LOT: "A"; PARKING LOT: "A1"

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Bucky Tafoya	Documentation Author Signature:
Company:	Signature Date:
Address:	CEA/ HERS Certification Identification (if applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Responsible Designer Signature:
Company:	Date Signed:
Address:	License:
City/State/Zip:	Phone:

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CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814
City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
TITLE 24 COMPLIANCE - LIGHTING

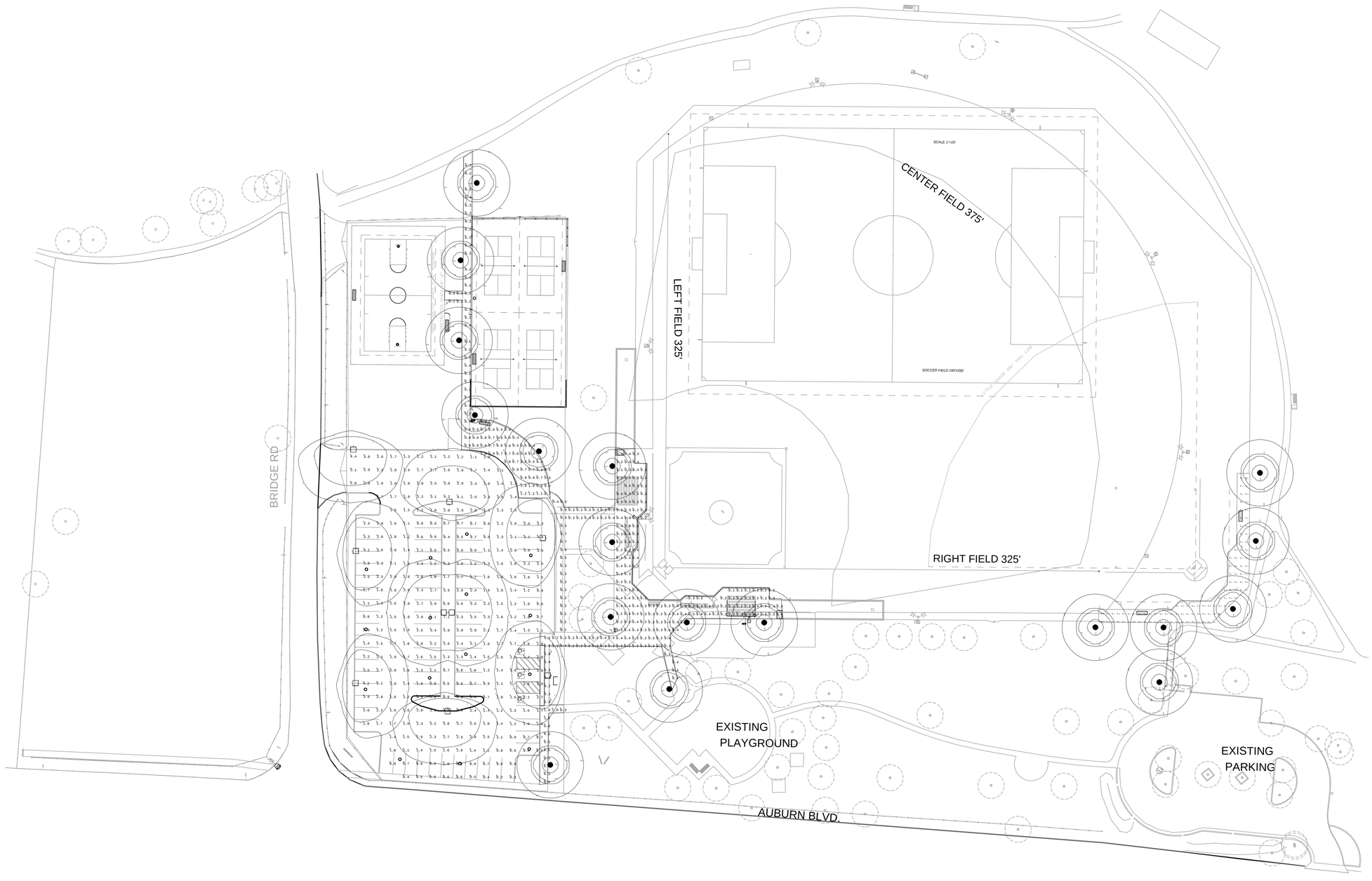
RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

DESIGN BY: Stantec
DATE 05.01.2023
SCALE AS NOTED
P. N. L19-3000-02

REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
E601 of XX
1



Calculation Summary						
Label	CalcType	Units	Avg	Max	Min	Avg/Min
PARK HARDSCAPE	Illuminance	Fc	0.48	4.7	0.1	4.80
PARKING LOT	Illuminance	Fc	1.82	7.1	0.3	6.07
SMALL FIELD HARDSCAP	Illuminance	Fc	0.36	0.5	0.1	3.60

Luminaire Schedule													
Symbol	Qty	Label	Arrangement	Description	Tag	LLF	Luminaire Lumens	Luminaire Watts	Total Watts	Mounting Height	Arrangement Watts	Arm	[MANUFAC]
	1	GL18-4-80LA-4853-NW_1	Back-Back	GL18-4-80LA-4853-NW	gl18-type 4 back to back	0.950	8494	80	160	17.375	160	1	PHILIPS GARDCO
	7	GL18-4-80LA-4853-NW	Single	GL18-4-80LA-4853-NW	gl-18-type 4	0.950	8494	80	560	17.375	80	1	PHILIPS GARDCO
	18	DPT A SB FR A 30K-UL UF_PLD27	Single	BXDPTASBFRA30K-ULUF		0.950	3393	33.89	610.02	12	33.89	0	Cree Inc
	1	ESU-EAGLSM032-NOM-150	Single			0.950	15851	161.9	161.9	30	161.9	6	EXCELLENCE OPTO INC

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CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO
Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
PHOTOMETRIC LIGHTING CALCULATION PLAN

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

DESIGN BY: Stantec
DATE 05.01.2023
SCALE AS NOTED
P. N. L19-3000-02

REVISIONS

PRELIMINARY
NOT FOR CONSTRUCTION

SHEET NO.
E701 of XX
1

Del Paso Park

Sacremento, CA

Lighting System

Pole / Fixture Summary

Pole ID	Pole Height	Mtg Height	Fixture Qty	Luminaire Type	Load	Circuit
A1-A2	70'	70'	3	TLC-LED-1200	3.51 kW	A
		70'	1	TLC-LED-900	0.88 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
A3-A4	70'	70'	1	TLC-LED-1200	1.17 kW	B
		70'	2	TLC-LED-900	1.76 kW	B
		16'	1	TLC-BT-575	0.58 kW	B
B1	100'	100'	2	TLC-LED-1200	2.34 kW	C
		100'	1	TLC-LED-1200	1.17 kW	A
		100'	1	TLC-LED-1500	1.41 kW	C
		100'	2	TLC-LED-1500	2.82 kW	A
		16'	1	TLC-BT-575	0.58 kW	C
		16'	1	TLC-BT-575	0.58 kW	A
B2	100'	100'	6	TLC-LED-1200	7.02 kW	C
		100'	3	TLC-LED-1500	4.23 kW	C
		16'	2	TLC-BT-575	1.15 kW	C
B4	80'	80'	1	TLC-LED-1200	1.17 kW	C
		80'	3	TLC-LED-1500	4.23 kW	C
		16'	1	TLC-BT-575	0.58 kW	C
BA1-BA2	40'	40'	2	TLC-LED-550	1.08 kW	D
D1	80'	80'	3	TLC-LED-1500	4.23 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
PB1-PB4	50'	50'	3	TLC-LED-550	1.62 kW	E
S1-S2	70'	70'	4	TLC-LED-1200	4.68 kW	A
		16'	1	TLC-BT-575	0.58 kW	A
16			***72***		***68.16 kW***	

Circuit Summary

Circuit	Description	Load	Fixture Qty
A	Baseball	29.81 kW	28
B	Softball	7.01 kW	8
C	BB/SB/SO	22.7 kW	20
D	Basketball	2.16 kW	4
E	Pickleball 1-4	6.48 kW	12

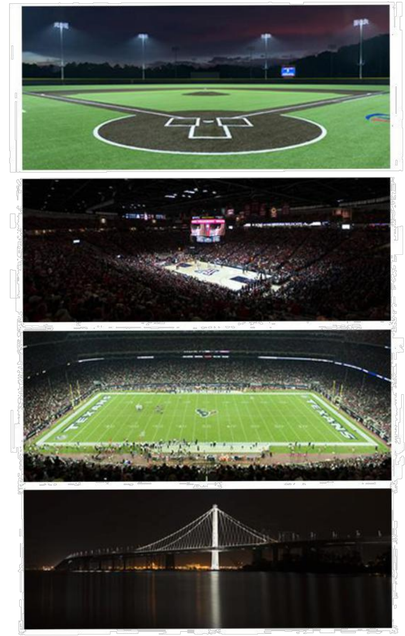
Fixture Type Summary

Type	Source	Wattage	Lumens	L90	L80	L70	Quantity
TLC-LED-1200	LED 5700K - 75 CRI	1170W	150,000	>120,000	>120,000	>120,000	26
TLC-LED-900	LED 5700K - 75 CRI	880W	104,000	>120,000	>120,000	>120,000	6
TLC-BT-575	LED 5700K - 75 CRI	575W	52,000	>120,000	>120,000	>120,000	12
TLC-LED-1500	LED 5700K - 75 CRI	1410W	181,000	>120,000	>120,000	>120,000	12
TLC-LED-550	LED 5700K - 75 CRI	540W	67,000	>120,000	>120,000	>120,000	16

Single Luminaire Amperage Draw Chart

Driver (.90 min power factor)	Max Line Amperage Per Luminaire						
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-1200	6.9	6.5	6.0	5.2	4.2	3.8	3.0
TLC-LED-900	5.2	4.9	4.5	3.9	3.1	2.9	2.3
TLC-BT-575	3.4	3.2	2.9	2.5	2.0	1.8	1.5
TLC-LED-1500	8.4	7.9	7.3	6.3	5.0	4.6	3.6
TLC-LED-550	3.2	3.0	2.8	2.4	1.9	1.8	1.4

From Hometown to Professional



ENGINEERED DESIGN By: Aaron Rose · File #228314A · 22-Jun-23

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PROJECT SUMMARY

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DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
MUSCO FIELD AND COURT PHASE 2 LIGHTING DESIGN

DESIGN BY: Stantec
DATE 05.01.2023
SCALE AS NOTED
P. N. L19-3000-02
REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
E801 of XX
1

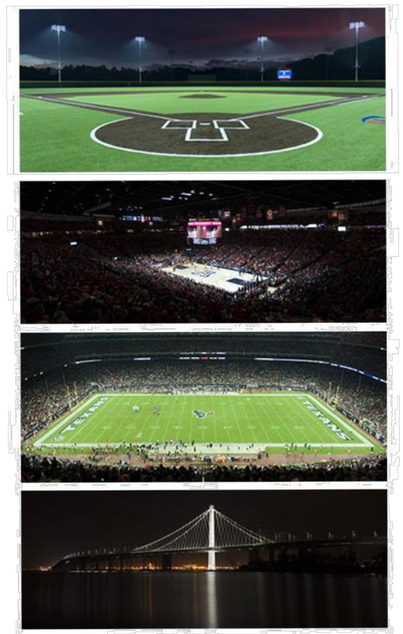
Del Paso Park

Sacramento, CA

Light Level Summary

Calculation Grid Summary								
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty
		Ave	Min	Max	Max/Min	Ave/Min		
150' Spill	Horizontal	0.04	0	0.15	0.00		A,B,C,D,E	72
150' Spill	Max Candela (by Fixture)	2613	15.9	8372	527.60	164.66	A,B,C,D,E	72
150' Spill	Max Vertical Illuminance Metric	0.09	0	0.34	1282.56		A,B,C,D,E	72
Baseball (Infield)	Horizontal Illuminance	51.2	42	58	1.38	1.22	A,C	48
Baseball (Outfield)	Horizontal Illuminance	30.5	23	40	1.75	1.32	A,C	48
Basketball	Horizontal Illuminance	36.2	26	41	1.58	1.39	D	4
Pickleball 1-4	Horizontal Illuminance	46	34	57	1.69	1.35	E	12
Soccer	Horizontal Illuminance	31.3	25	39	1.58	1.25	C,A,B	56
Softball (Infield)	Horizontal Illuminance	52.1	40	58	1.48	1.30	C,B	28
Softball (Outfield)	Horizontal Illuminance	31	20	44	2.15	1.55	C,B	28

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ENGINEERED DESIGN By: Aaron Rose · File #228314A · 22-Jun-23

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PROJECT SUMMARY

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DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO
Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
MUSCO FIELD AND COURT PHASE 2 LIGHTING DESIGN

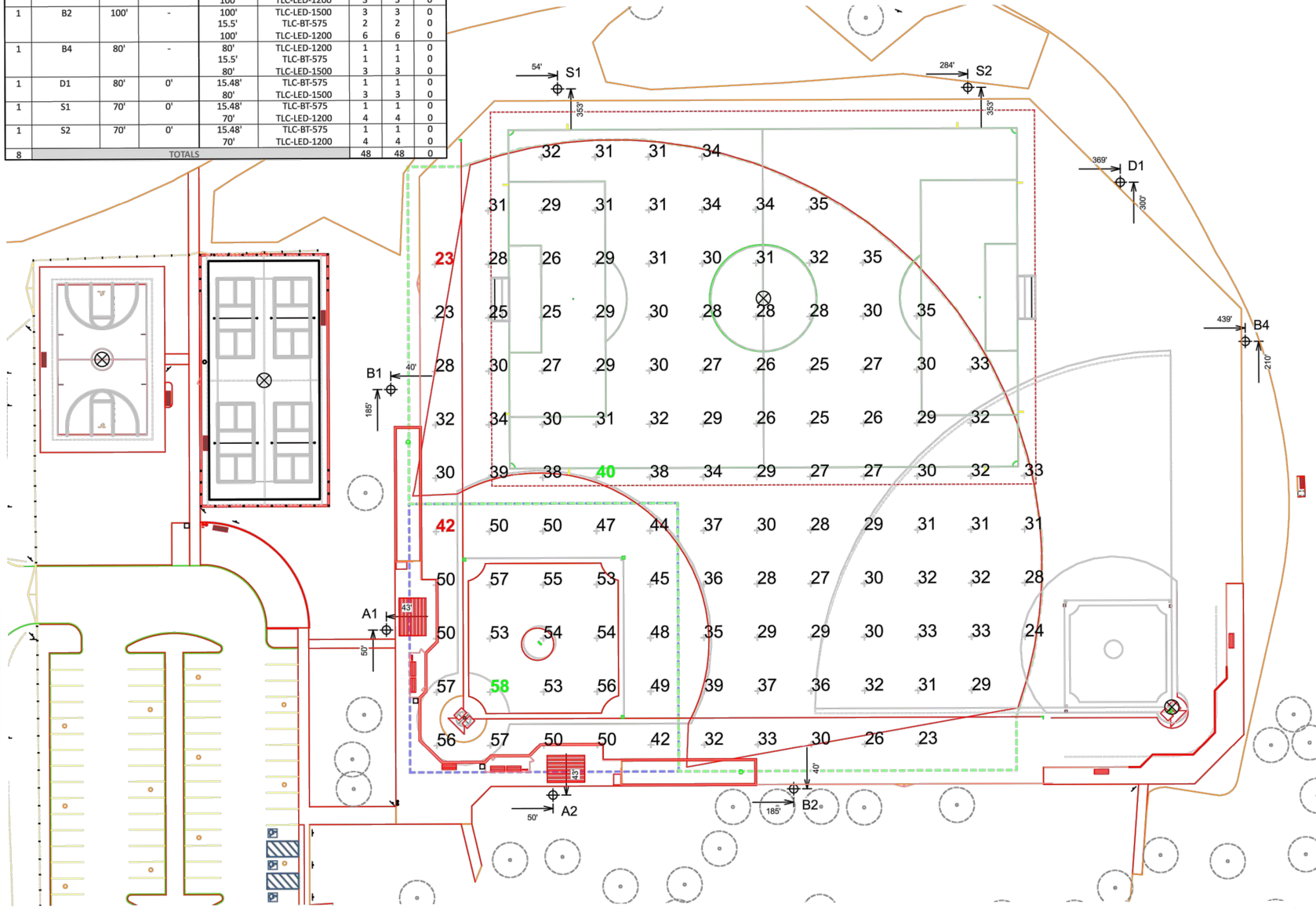
DESIGN BY: Stantec
DATE 05.01.2023
SCALE AS NOTED
P. N. L19-3000-02
REVISIONS

PRELIMINARY
NOT FOR CONSTRUCTION

SHEET NO.
E802 of XX
1

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	70'	-	70'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	3	3	0
1	B1	100'	-	100'	TLC-LED-1500	3	3	0
				15.5'	TLC-BT-575	2	2	0
				100'	TLC-LED-1200	3	3	0
1	B2	100'	-	100'	TLC-LED-1500	3	3	0
				15.5'	TLC-BT-575	2	2	0
				100'	TLC-LED-1200	6	6	0
1	B4	80'	-	80'	TLC-LED-1200	1	1	0
				15.5'	TLC-BT-575	1	1	0
				80'	TLC-LED-1500	3	3	0
1	D1	80'	0'	15.48'	TLC-BT-575	1	1	0
				80'	TLC-LED-1500	3	3	0
1	S1	70'	0'	15.48'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	4	4	0
1	S2	70'	0'	15.48'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	4	4	0
8	TOTALS					48	48	0



SCALE IN FEET 1 : 60

0' 60' 120'

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

ENGINEERED DESIGN By: Aaron Rose · File #228314A · 22-Jun-23

Del Paso Park

Sacramento, CA

GRID SUMMARY

Name:	**Baseball**
Size:	310'/360'/310' - basepath 90'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	51.23	30.47
Maximum:	58	40
Minimum:	42	23
Avg / Min:	1.22	1.35
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.38	1.75
UG (adjacent pts):	1.19	1.39
CU:	0.59	
No. of Points:	25	96

LUMINAIRE INFORMATION

Applied Circuits:	A, C
No. of Luminaires:	**48**
Total Load:	52.51 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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.

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ILLUMINATION SUMMARY

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City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
MUSCO FIELD AND COURT PHASE 2 LIGHTING DESIGN

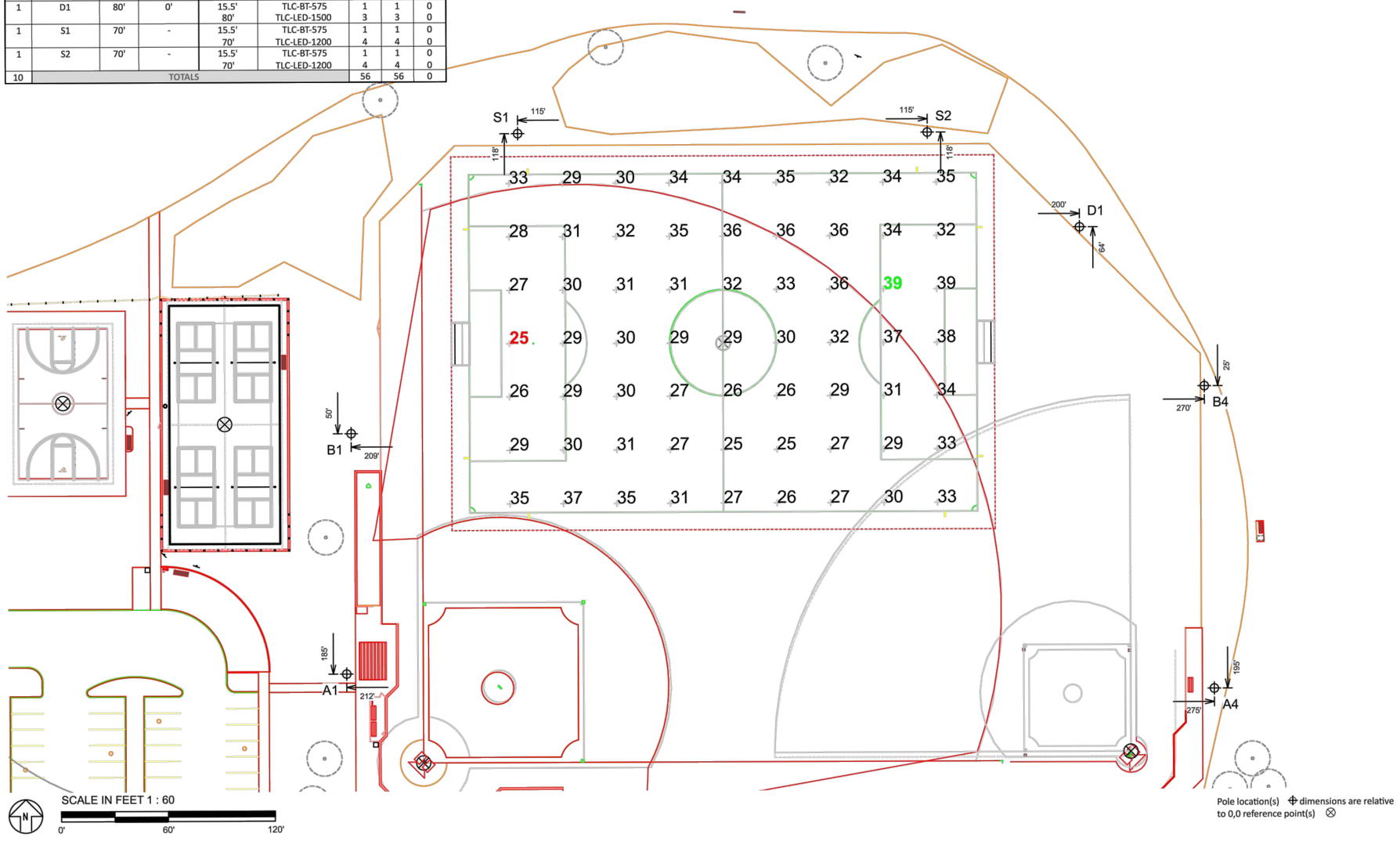
DESIGN BY: Stantec
DATE 05.01.2023
SCALE AS NOTED
P. N. L19-3000-02
REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
E803 of XX
1

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	70'	0'	70'	TLC-LED-900	1	1	0
				15.52'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	3	3	0
2	A3-A4	70'	0'	70'	TLC-LED-1200	1	1	0
				15.52'	TLC-BT-575	1	1	0
				70'	TLC-LED-900	2	2	0
1	B1	100'	0'	100'	TLC-LED-1500	3	3	0
				15.52'	TLC-BT-575	2	2	0
				100'	TLC-LED-1200	3	3	0
1	B2	100'	0'	100'	TLC-LED-1500	3	3	0
				15.52'	TLC-BT-575	2	2	0
				100'	TLC-LED-1200	6	6	0
1	B4	80'	0'	80'	TLC-LED-1200	1	1	0
				15.52'	TLC-BT-575	1	1	0
				80'	TLC-LED-1500	3	3	0
1	D1	80'	0'	15.5'	TLC-BT-575	1	1	0
				80'	TLC-LED-1500	3	3	0
1	S1	70'	-	15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	4	4	0
1	S2	70'	-	15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	4	4	0
10	TOTALS					56	56	0



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

ENGINEERED DESIGN By: Aaron Rose · File #228314A · 22-Jun-23

Del Paso Park

Sacramento, CA

GRID SUMMARY

Name:	**Soccer**
Size:	285' x 190'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**30**
Scan Average:	31.26
Maximum:	39
Minimum:	25
Avg / Min:	1.26
Guaranteed Max / Min:	**2.5**
Max / Min:	1.58
UG (adjacent pts):	1.24
CU:	0.24
No. of Points:	63

LUMINAIRE INFORMATION

Applied Circuits:	A, B, C
No. of Luminaires:	**56**
Total Load:	59.52 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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.

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City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
MUSCO FIELD AND COURT PHASE 2 LIGHTING DESIGN

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (L19300002)

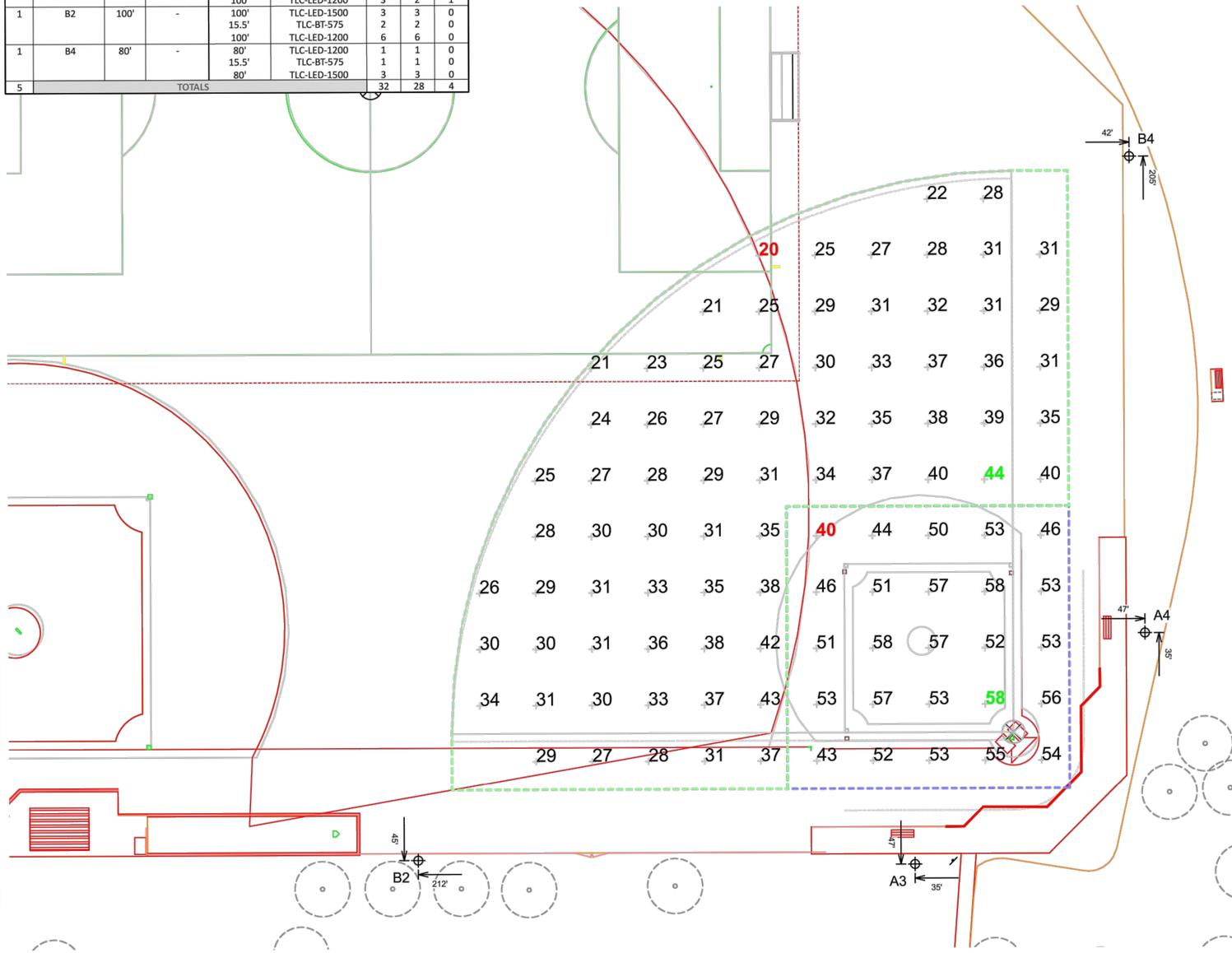
DESIGN BY: Stantec
DATE 05.01.2023
SCALE AS NOTED
P. N. L19-3000-02
REVISIONS

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SHEET NO.
E804 of XX
1

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A3-A4	70'	-	70'	TLC-LED-1200	1	1	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-900	2	2	0
1	B1	100'	-	100'	TLC-LED-1500	3	1	2
				15.5'	TLC-BT-575	2	1	1
				100'	TLC-LED-1200	3	2	1
1	B2	100'	-	100'	TLC-LED-1500	3	3	0
				15.5'	TLC-BT-575	2	2	0
				100'	TLC-LED-1200	6	6	0
1	B4	80'	-	80'	TLC-LED-1200	1	1	0
				15.5'	TLC-BT-575	1	1	0
				80'	TLC-LED-1500	3	3	0
5	TOTALS					32	28	4



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

ENGINEERED DESIGN By: Aaron Rose · File #228314A · 22-Jun-23

Del Paso Park

Sacramento, CA

GRID SUMMARY

Name:	**Softball**
Size:	200'/200'/200' - basepath 60'
Spacing:	20.0' x 20.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Infield	Outfield
Guaranteed Average:	**50**	**30**
Scan Average:	52.12	31.00
Maximum:	58	44
Minimum:	40	20
Avg / Min:	1.32	1.53
Guaranteed Max / Min:	**2**	**2.5**
Max / Min:	1.48	2.15
UG (adjacent pts):	1.22	1.29
CU:	0.39	
No. of Points:	25	71

LUMINAIRE INFORMATION

Applied Circuits:	B, C
No. of Luminaires:	**28**
Total Load:	29.71 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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.

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RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
MUSCO FIELD AND COURT PHASE 2 LIGHTING DESIGN

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (L19300002)

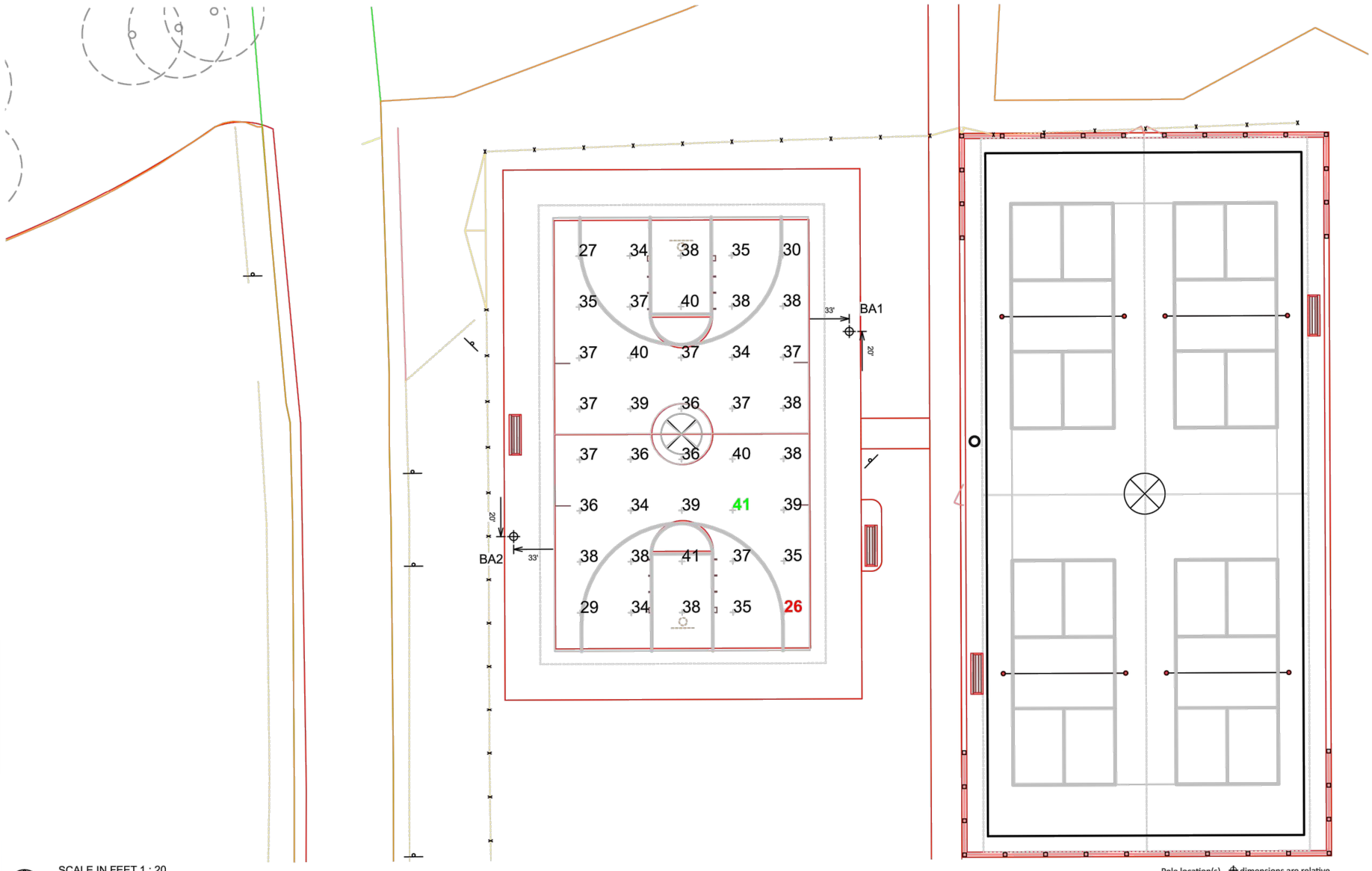
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DATE 05.01.2023
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REVISIONS

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SHEET NO.
E805 of XX
1

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	BA1, BA2	40'	-	40'	TLC-LED-550	2	2	0
2	TOTALS					4	4	0



SCALE IN FEET 1 : 20

0' 20' 40'

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

ENGINEERED DESIGN By: Aaron Rose · File #228314A · 22-Jun-23

Del Paso Park

Sacramento, CA

GRID SUMMARY

Name:	**Basketball**
Size:	85' x 50'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**30**
Scan Average:	36.21
Maximum:	41
Minimum:	26
Avg / Min:	1.39
Guaranteed Max / Min:	**3**
Max / Min:	1.58
UG (adjacent pts):	1.34
CU:	0.55
No. of Points:	40

LUMINAIRE INFORMATION

Applied Circuits:	D
No. of Luminaires:	**4**
Total Load:	2.16 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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.

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RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
MUSCO FIELD AND COURT PHASE 2 LIGHTING DESIGN

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (L19300002)

DESIGN BY: Stantec

DATE 05.01.2023

SCALE AS NOTED

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REVISIONS

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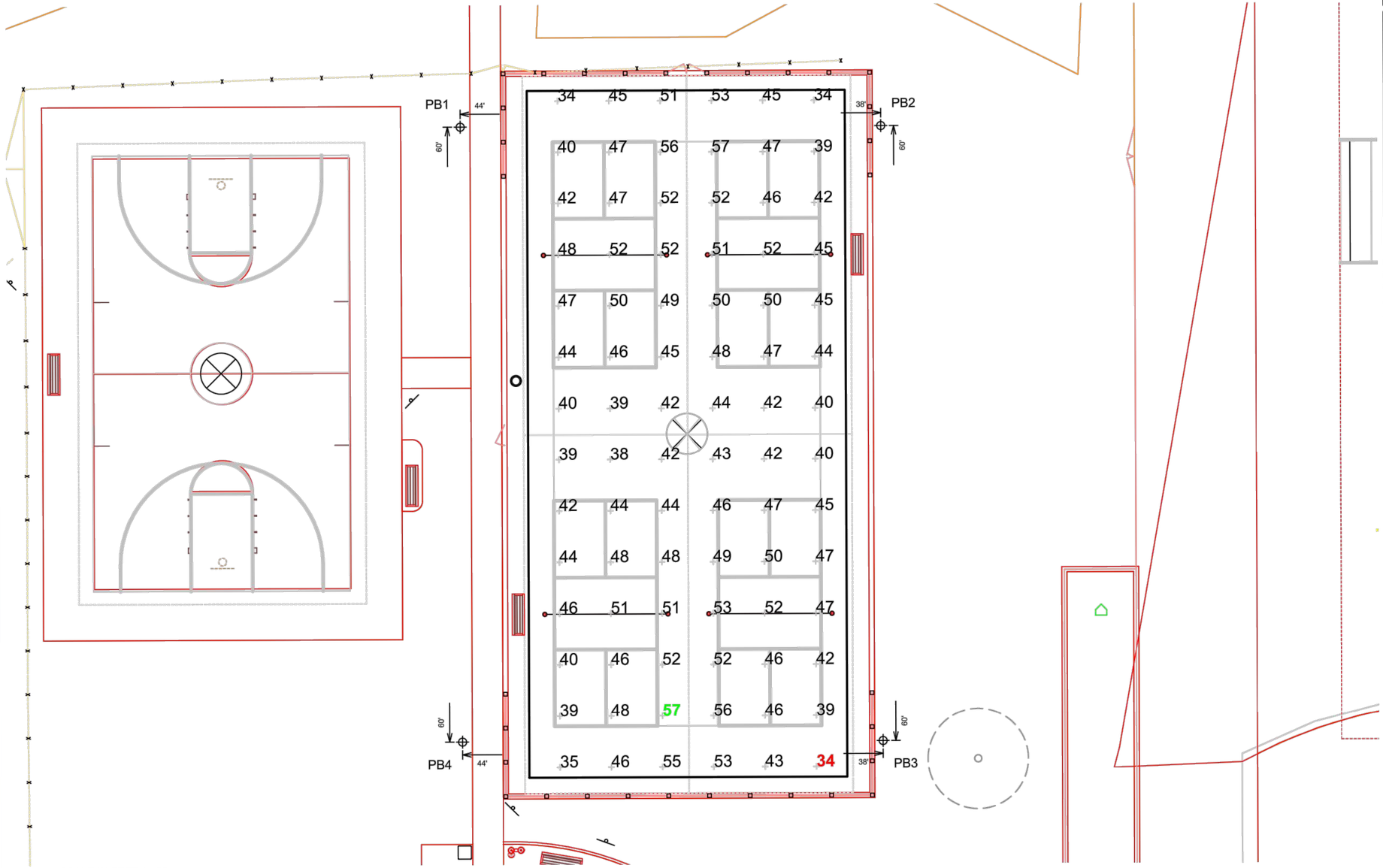
SHEET NO.

E806 of XX

1

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
4	PB1, PB2 PB3, PB4	50'	-	50'	TLC-LED-550	3	3	0
4	TOTALS					12	12	0



SCALE IN FEET 1 : 20

0' 20' 40'

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

ENGINEERED DESIGN By: Aaron Rose · File #228314A · 22-Jun-23

Del Paso Park

Sacremento, CA

GRID SUMMARY

Name:	**Pickleball 1-4**
Size:	62' x 134'
Spacing:	10.0' x 10.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Guaranteed Average:	**40**
Scan Average:	46.02
Maximum:	57
Minimum:	34
Avg / Min:	1.37
Guaranteed Max / Min:	**2.5**
Max / Min:	1.69
UG (adjacent pts):	1.33
CU:	0.51
No. of Points:	84

LUMINAIRE INFORMATION

Applied Circuits:	E
No. of Luminaires:	**12**
Total Load:	6.48 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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.

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City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
MUSCO FIELD AND COURT PHASE 2 LIGHTING DESIGN

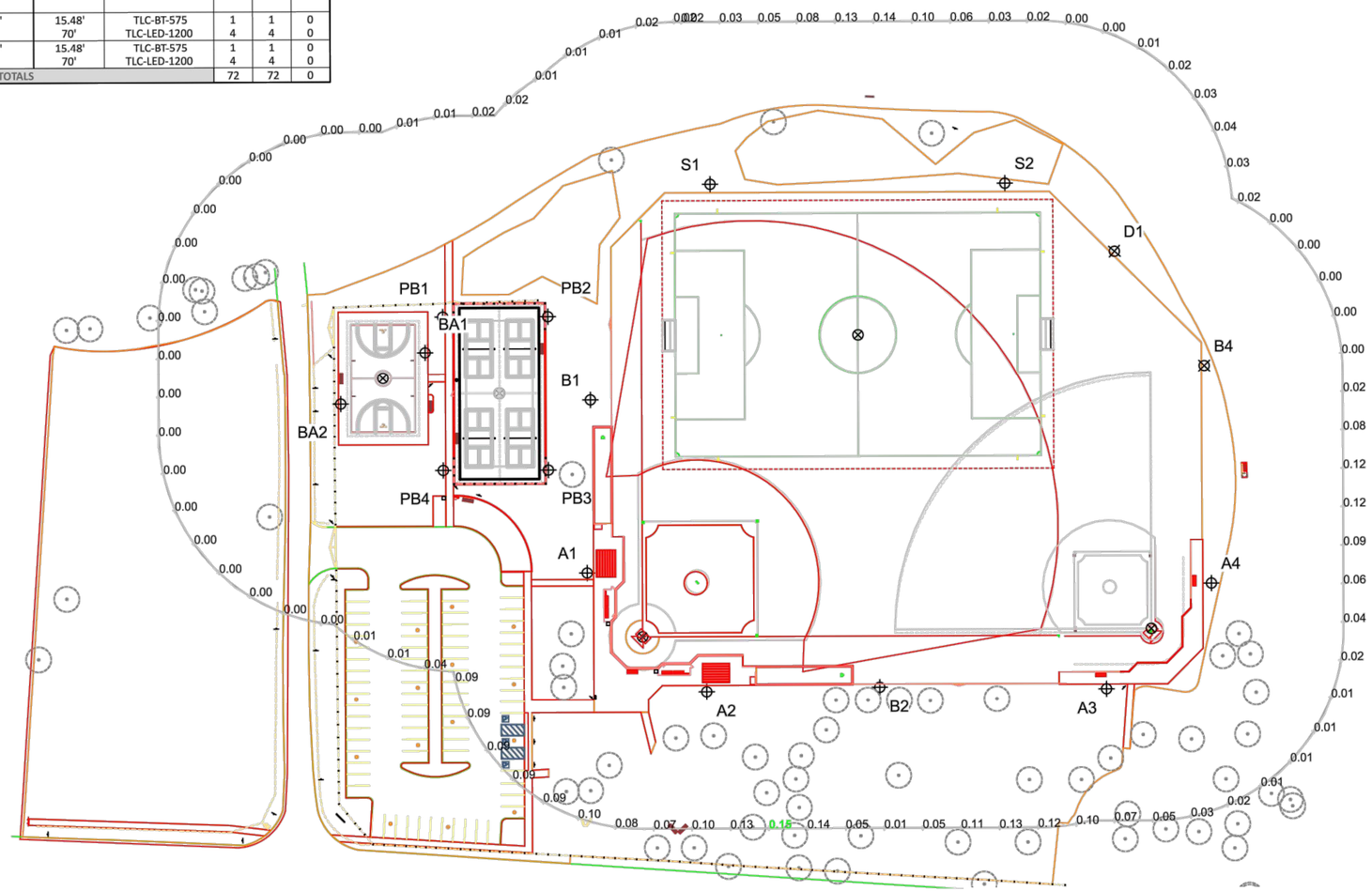
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SCALE AS NOTED
P. N. L19-3000-02
REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
E807 of XX
1

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	70'	-	70'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	3	3	0
2	A3-A4	70'	-	70'	TLC-LED-1200	1	1	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-900	2	2	0
2	BA1, BA2	40'	-	40'	TLC-LED-550	2	2	0
1	B1	100'	-	100'	TLC-LED-1500	3	3	0
				15.5'	TLC-BT-575	2	2	0
				100'	TLC-LED-1200	3	3	0
1	B2	100'	-	100'	TLC-LED-1500	3	3	0
				15.5'	TLC-BT-575	2	2	0
				100'	TLC-LED-1200	6	6	0
1	B4	80'	-	80'	TLC-LED-1200	1	1	0
				15.5'	TLC-BT-575	1	1	0
				80'	TLC-LED-1500	3	3	0
1	D1	80'	0'	15.48'	TLC-BT-575	1	1	0
				80'	TLC-LED-1500	3	3	0
4	PB1, PB2 PB3, PB4	50'	-	50'	TLC-LED-550	3	3	0
1	S1	70'	0'	15.48'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	4	4	0
1	S2	70'	0'	15.48'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	4	4	0
16	TOTALS					72	72	0



SCALE IN FEET 1 : 100

0' 100' 200'

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

ENGINEERED DESIGN By: Aaron Rose · File #228314A · 22-Jun-23

ILLUMINATION SUMMARY

Del Paso Park

Sacramento, CA

GRID SUMMARY

Name:	**150' Spill**
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

HORIZONTAL FOOTCANDLES

	Entire Grid
Scan Average:	0.0402
Maximum:	0.15
Minimum:	0.00
No. of Points:	89

LUMINAIRE INFORMATION

Applied Circuits:	A, B, C, D, E
No. of Luminaires:	**72**
Total Load:	68.16 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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.

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City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
MUSCO FIELD AND COURT PHASE 2 LIGHTING DESIGN

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (L19300002)

DESIGN BY: Stantec

DATE 05.01.2023

SCALE AS NOTED

P. N. L19-3000-02

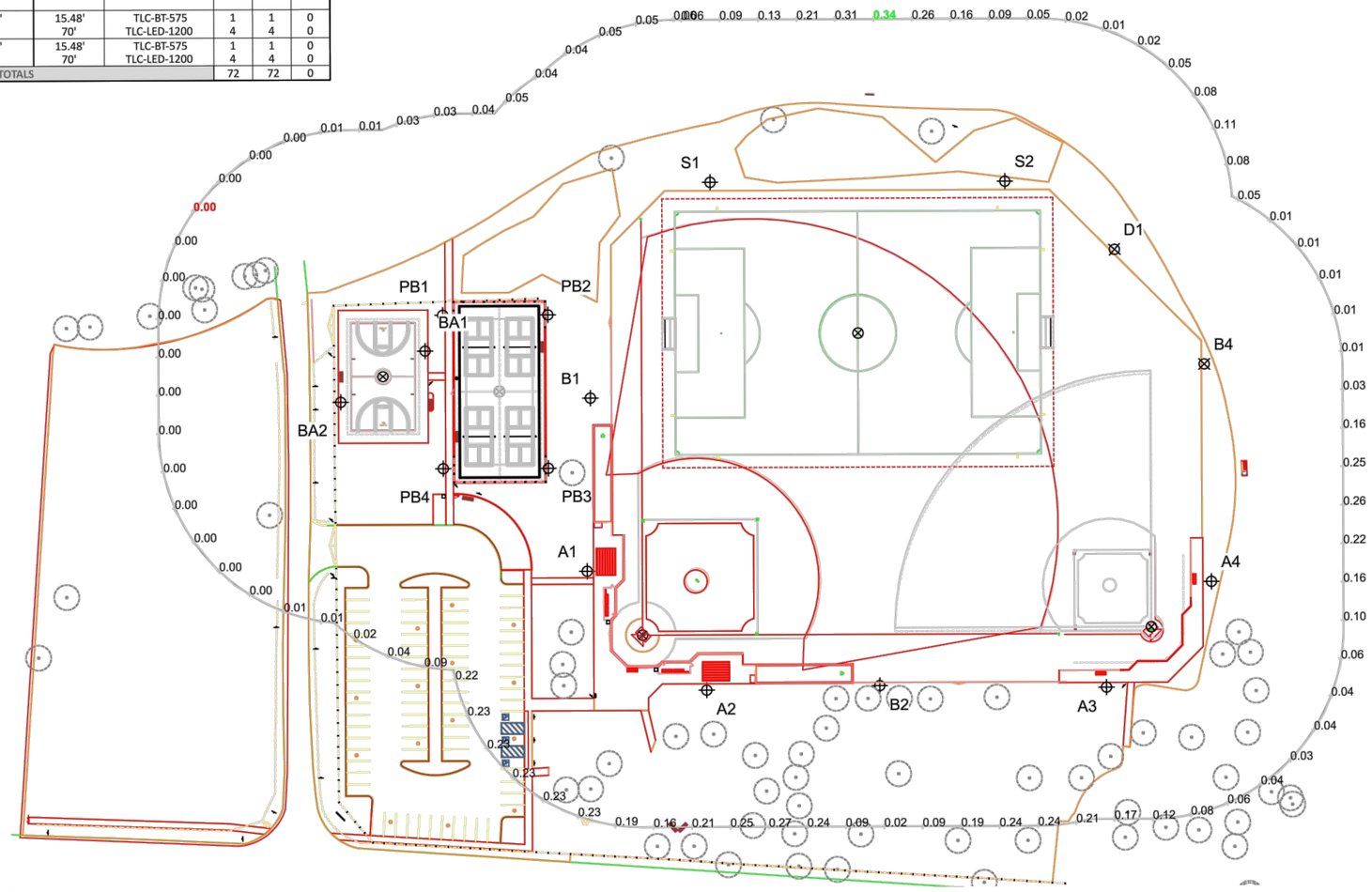
REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
E808 of XX
1

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	70'	-	70'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	3	3	0
2	A3-A4	70'	-	70'	TLC-LED-1200	1	1	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-900	2	2	0
2	BA1, BA2	40'	-	40'	TLC-LED-550	2	2	0
1	B1	100'	-	100'	TLC-LED-1500	3	3	0
				15.5'	TLC-BT-575	2	2	0
				100'	TLC-LED-1200	3	3	0
1	B2	100'	-	100'	TLC-LED-1500	3	3	0
				15.5'	TLC-BT-575	2	2	0
				100'	TLC-LED-1200	6	6	0
1	B4	80'	-	80'	TLC-LED-1200	1	1	0
				15.5'	TLC-BT-575	1	1	0
				80'	TLC-LED-1500	3	3	0
1	D1	80'	0'	15.48'	TLC-BT-575	1	1	0
				80'	TLC-LED-1500	3	3	0
4	PB1, PB2 PB3, PB4	50'	-	50'	TLC-LED-550	3	3	0
1	S1	70'	0'	15.48'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	4	4	0
1	S2	70'	0'	15.48'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	4	4	0
16	TOTALS					72	72	0



SCALE IN FEET 1 : 100

0' 100' 200'

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

ENGINEERED DESIGN By: Aaron Rose · File #228314A · 22-Jun-23

Del Paso Park

Sacramento, CA

GRID SUMMARY

Name:	**150' Spill**
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAX VERTICAL FOOTCANDLES

	Entire Grid
Scan Average:	0.0938
Maximum:	0.34
Minimum:	0.00
No. of Points:	89

LUMINAIRE INFORMATION

Applied Circuits:	A, B, C, D, E
No. of Luminaires:	**72**
Total Load:	68.16 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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.

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RENFREE FIELD RENOVATION
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MUSCO FIELD AND COURT PHASE 2 LIGHTING DESIGN

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

DESIGN BY: Stantec

DATE 05.01.2023

SCALE AS NOTED

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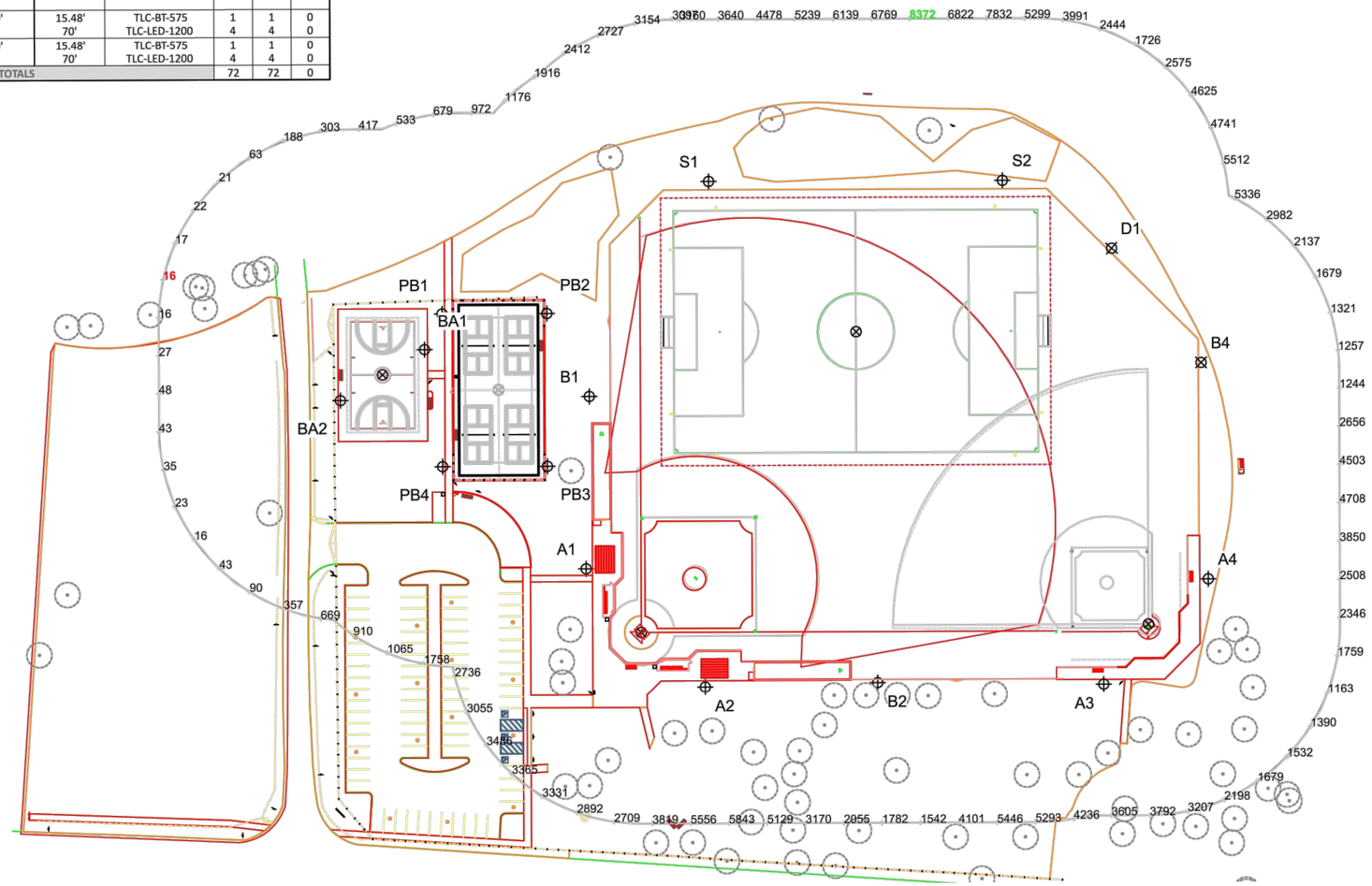
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E809 of XX
1

EQUIPMENT LIST FOR AREAS SHOWN

Pole				Luminaires				
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE	THIS GRID	OTHER GRIDS
2	A1-A2	70'	-	70'	TLC-LED-900	1	1	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	3	3	0
2	A3-A4	70'	-	70'	TLC-LED-1200	1	1	0
				15.5'	TLC-BT-575	1	1	0
				70'	TLC-LED-900	2	2	0
2	BA1, BA2	40'	-	40'	TLC-LED-550	2	2	0
1	B1	100'	-	100'	TLC-LED-1500	3	3	0
				15.5'	TLC-BT-575	2	2	0
				100'	TLC-LED-1200	3	3	0
1	B2	100'	-	100'	TLC-LED-1500	3	3	0
				15.5'	TLC-BT-575	2	2	0
				100'	TLC-LED-1200	6	6	0
1	B4	80'	-	80'	TLC-LED-1200	1	1	0
				15.5'	TLC-BT-575	1	1	0
				80'	TLC-LED-1500	3	3	0
1	D1	80'	0'	15.48'	TLC-BT-575	1	1	0
				80'	TLC-LED-1500	3	3	0
4	PB1, PB2 PB3, PB4	50'	-	50'	TLC-LED-550	3	3	0
1	S1	70'	0'	15.48'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	4	4	0
1	S2	70'	0'	15.48'	TLC-BT-575	1	1	0
				70'	TLC-LED-1200	4	4	0
16	TOTALS					72	72	0



SCALE IN FEET 1 : 100

0' 100' 200'

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

ENGINEERED DESIGN By: Aaron Rose · File #228314A · 22-Jun-23

Del Paso Park

Sacramento, CA

GRID SUMMARY

Name:	**150' Spill**
Spacing:	30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

CANDELA (PER FIXTURE)

	Entire Grid
Scan Average:	2613.1909
Maximum:	8372.00
Minimum:	15.87
No. of Points:	89

LUMINAIRE INFORMATION

Applied Circuits:	A, B, C, D, E
No. of Luminaires:	**72**
Total Load:	68.16 kW

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

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.

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ILLUMINATION SUMMARY

Know what's below. Call before you dig.

CITY OF SACRAMENTO
DEPT. OF PARKS & RECREATION
PARK PLANNING & DEVELOPMENT SERVICES
LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO Youth, Parks, & Community Enrichment

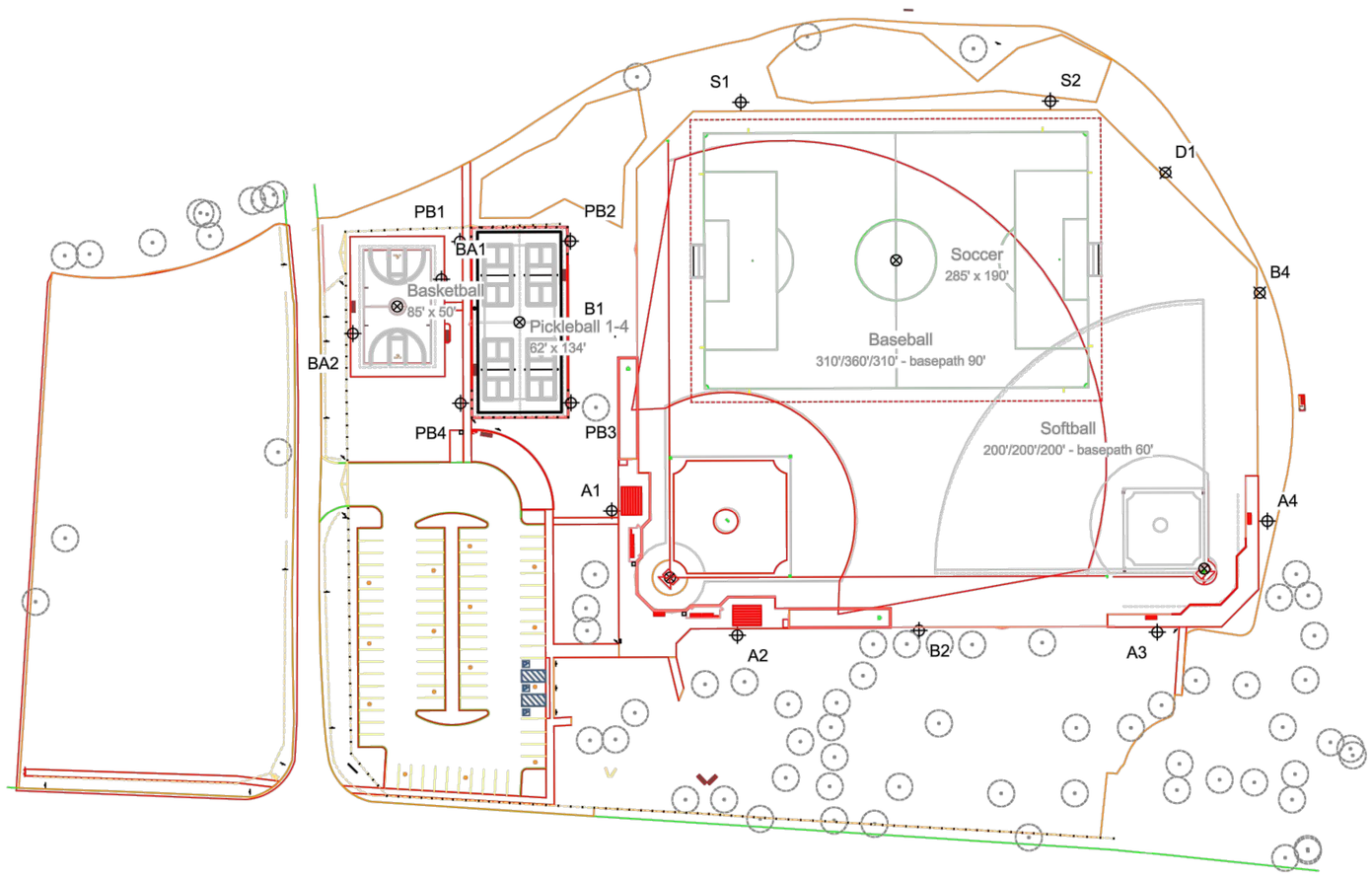
RENFREE FIELD RENOVATION (DEL PASO REGIONAL PARK (LI9300002)

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
MUSCO FIELD AND COURT PHASE 2 LIGHTING DESIGN

DESIGN BY: Stantec
DATE 05.01.2023
SCALE AS NOTED
P. N. L19-3000-02
REVISIONS

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SHEET NO.
E810 of XX
1



Del Paso Park

Sacramento, CA

EQUIPMENT LAYOUT

INCLUDES:
- Baseball
- Basketball
- Pickleball 1-4
- Soccer
- Softball

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

Pole				Luminaires		
QTY	LOCATION	SIZE	GRADE ELEVATION	MOUNTING HEIGHT	LUMINAIRE TYPE	QTY / POLE
2	A1-A2	70'	-	70' 15.5' 70'	TLC-LED-900 TLC-BT-575 TLC-LED-1200	1 1 3
2	A3-A4	70'	-	70' 15.5' 70'	TLC-LED-1200 TLC-BT-575 TLC-LED-900	1 1 2
2	BA1, BA2	40'	-	40'	TLC-LED-550	2
1	B1	100'	-	100' 15.5' 100'	TLC-LED-1500 TLC-BT-575 TLC-LED-1200	3 2 3
1	B2	100'	-	100' 15.5' 100'	TLC-LED-1500 TLC-BT-575 TLC-LED-1200	3 2 6
1	B4	80'	-	80' 15.5' 80'	TLC-LED-1200 TLC-BT-575 TLC-LED-1500	1 1 3
1	D1	80'	0'	15.5' 80'	TLC-BT-575 TLC-LED-1500	1 3
4	PB1, PB2 PB3, PB4	50'	-	50'	TLC-LED-550	3
1	S1	70'	-	15.5' 70'	TLC-BT-575 TLC-LED-1200	1 4
1	S2	70'	-	15.5' 70'	TLC-BT-575 TLC-LED-1200	1 4
16	TOTALS					72

SINGLE LUMINAIRE AMPERAGE DRAW CHART

Driver (.90 min power factor)	Line Amperage Per Luminaire (max draw)						
Single Phase Voltage	208 (60)	220 (60)	240 (60)	277 (60)	347 (60)	380 (60)	480 (60)
TLC-LED-1200	6.9	6.5	6.0	5.2	4.2	3.8	3.0
TLC-LED-900	5.2	4.9	4.5	3.9	3.1	2.9	2.3
TLC-BT-575	3.4	3.2	2.9	2.5	2.0	1.8	1.5
TLC-LED-1500	8.4	7.9	7.3	6.3	5.0	4.6	3.6
TLC-LED-550	3.2	3.0	2.8	2.4	1.9	1.8	1.4

SCALE IN FEET 1 : 100

0' 100' 200'

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

ENGINEERED DESIGN By: Aaron Rose · File #228314A · 22-Jun-23

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EQUIPMENT LAYOUT

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LANDSCAPE ARCHITECTURE SECTION
915 I STREET, 3RD FLOOR, SACRAMENTO, CA 95814

City of SACRAMENTO Youth, Parks, & Community Enrichment

RENFREE FIELD RENOVATION
DEL PASO REGIONAL PARK
MUSCO FIELD AND COURT PHASE 2 LIGHTING DESIGN

RENFREE FIELD RENOVATION DEL PASO REGIONAL PARK (LI9300002)

DESIGN BY: Stantec

DATE 05.01.2023

SCALE AS NOTED

P. N. L19-3000-02

REVISIONS

PRELIMINARY NOT FOR CONSTRUCTION

SHEET NO.
E811 of XX
1

APPENDIX B

Air Quality and Greenhouse Gas Emissions Modeling Memo

APPENDIX B

Air Quality and Greenhouse Gas Emissions Modeling Memo

Air Quality & Greenhouse Gas Technical Report

Renfree Field Renovations Project

Sacramento County, California

AUGUST 2023

PREPARED FOR

City of Sacramento

PREPARED BY

SWCA Environmental Consultants

AIR QUALITY & GREENHOUSE GAS TECHNICAL REPORT RENFREE FIELD RENOVATIONS PROJECT SACRAMENTO COUNTY, CALIFORNIA

Prepared for

City of Sacramento

Prepared by

Brad Sohm, Principal Air Quality Team Lead
Erin Wielenga, Air Quality Specialist

SWCA Environmental Consultants
320 North Halstead Street, Suite 120
Pasadena, California 91107
(626) 240-0587
www.swca.com

August 2023

CONTENTS

1 Introduction 1

2 Project Location and Description 1

2.1 Project Location 1

2.2 Construction Time Frame and Phasing 5

3 Environmental Setting 5

3.1 Overview of Air Pollution and Potential Health Effects 5

3.1.1 Criteria Air Pollutants 5

3.1.2 Volatile Organic Compounds 8

3.1.3 Toxic Air Contaminants 8

3.1.4 Odors 11

3.2 Existing Air Quality Conditions in the Project Area 12

3.2.1 Regional Air Quality 12

3.2.2 Regional Attainment Status 13

3.2.3 Local Air Quality 13

3.3 Greenhouse Gas Setting 16

3.3.1 Greenhouse Gas Background 17

3.3.2 Greenhouse Gas Emissions Inventories 18

4 Regulatory Setting 19

4.1 Federal 19

4.1.1 Federal Clean Air Act 19

4.1.2 Toxic Substance Control Act 20

4.1.3 National Emission Standards for Hazardous Air Pollutants (Asbestos) 21

4.2 State 21

4.2.1 California Clean Air Act 21

4.2.2 California Code of Regulations 22

4.2.3 Toxic Air Contaminants Regulations 22

4.2.4 Executive Order S-3-05, Executive Order B-30-15, and Executive Order B-55-18 23

4.2.5 Assembly Bill 32 — California Global Warming Solution Act 24

4.2.6 Climate Change Scoping Plan 24

4.2.7 Assembly Bill 197 24

4.2.8 Cap-and-Trade Program 25

4.2.9 Assembly Bill 1493 (Pavley I) 25

4.2.10 Executive Order S-01-07 (California Low Carbon Fuel Standard) 26

4.2.11 Advanced Clean Car Regulations 26

4.2.12 Senate Bill 375 26

4.2.13 Senate Bill 97 26

4.3 Regional 27

4.3.1 Sacramento Metro Air Quality Management District 27

4.3.2 City of Sacramento Climate Action Plan 29

4.3.3 City of Sacramento General Plan 30

4.3.4 Metropolitan Transportation Plan/Sustainable Communities Strategy 30

5 Thresholds of Significance 31

5.1 Air Quality 31

5.1.1 Toxic Air Contaminants 32

5.2 Greenhouse Gases 33

6 Methodology 35
6.1 Construction Emissions 35
6.1.1 Construction Assumptions 35
6.2 Operational Emissions 37
6.3 Greenhouse Gas 39
6.4 Toxic Air Contaminants Impacts (Construction and Operations) 39
7 Impact Analysis 39
7.1 Cumulative Impacts 45
7.1.1 Air Quality 45
7.1.2 Greenhouse Gas Emissions 46
7.2 Mitigation Measures 46
8 References & Literature Cited 48

Tables

Table 1. State and Federal Ambient Air Quality Standards 11
Table 2. Summary of Ambient Air Quality Monitoring Summary 14
Table 3. California Greenhouse Gas Inventory 14
Table 4. Sacramento 2016 Greenhouse Gas Inventory 15
Table 5. Global Warming Potentials 18
Table 6. Construction Anticipated Schedule, Trips, and Equipment 37
Table 7. Unmitigated Construction Emissions Summary 40
Table 8. Mitigated Construction Emissions Summary 41
Table 9. Unmitigated Operational Emissions Summary 41
Table 10. Estimated Annual Construction Greenhouse Gas Emissions 44
Table 11. Estimated Annual Operational Greenhouse Gas Emissions 44

Figures

Figure 1. Vicinity map. 3
Figure 2. Project location. 4

Appendices

Appendix A. CalEEMod Results – Air Pollutant & GHG Emission Calculations

ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
AB	Assembly Bill
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
Air Basin	Sacramento Valley Air Basin
AQMP	Air Quality Management Plan
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emission Estimator Model
CalEPA	California Environmental Protection Agency
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CAT	California Action Team
CCAA	California Clean Air Act
CAAP	City of Sacramento Climate Action and Adaptation Plan
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	County of Sacramento
City General Plan	City of Sacramento General Plan
DPM	diesel particulate matter
EO	Executive Order
EPA	U.S. Environmental Protection Agency
GHG	greenhouse gas
GWP	global warming potential
H_2S	hydrogen sulfide
HFCs	hydrofluorocarbons
HRA	health risk assessment
HVAC	heating, ventilation, and air conditioning
IPCC	Intergovernmental Panel on Climate Change

IWMA	Integrated Waste Management Act
LCFS	Low Carbon Fuel Standard
MMT	million metric tons
MT	metric tons
MTC	Metropolitan Transportation Commission
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NO_X	oxides of nitrogen
O_3	ozone
OEHHA	California Office of Environmental Health Hazard Assessment
OPR	Governor's Office of Planning and Research
PFCs	perfluorocarbons
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter
ppb	parts per billion
ppm	parts per million
project	Renfree Field Renovations Project
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
SB	Senate Bill
SCOTUS	Supreme Court of the United States
SCS	Sustainable Community Strategy
SF_6	sulfur hexafluoride
SMAQMD	Sacramento Metro Air Quality Management District
SO_2	sulfur dioxide
SO_x	sulfur oxides
SRA	source receptor area
SVAB	Sacramento Valley Air Basin
TAC	toxic air contaminant
TSCA	Toxic Substances Control Act
VMT	vehicle miles traveled
VOC	volatile organic compound
ZEV	Zero Emission Vehicle

1 INTRODUCTION

The City of Sacramento (City) retained SWCA Environmental Consultants (SWCA) to conduct an air quality and greenhouse gas emissions (GHGs) technical report in support of the proposed Harry Renfree Field Renovations Project (project) within the Del Paso Regional Park in Sacramento, Sacramento County, California (county). Del Paso Regional Park is an approximately 630-acre, multi-use park that includes three golf courses, lighted ball fields and other recreational features such as picnic areas, a sand volleyball court, a play structure and area, restrooms and the Sacramento Softball Complex.

The proposed project would replace Renfree Field, associated infrastructure, and the northwest portion of the existing western parking lot and associated infrastructure such as bleachers, bullpens, shaded dugouts, lighting, and connecting sidewalks. The baseball fields would be oriented opposite each other and a 210-foot-by-330-foot soccer field would be striped and overlap the outfields. The northern portion of the existing western parking lot would be redesigned to include a full-sized asphalt basketball court and two pickleball courts with benches and fencing. The southern portion of the existing western parking lot would be redesigned to accommodate an approximately 36-space vehicle parking lot with two-way access via Bridge Road. The proposed on-site walkway and right-of-way improvements along Auburn Boulevard (from the existing children's playground west across Bridge Road to the edge of the Owl Creek riparian area) would interconnect the new and existing park features. Physical environmental changes associated with construction activities would include vegetation, tree, and asphalt removal where site grading and construction would occur. Associated construction activities would include sidewalk construction along the north side of Auburn Boulevard to the edge of the Owl Creek riparian area; the extension of new utilities for electrical service, domestic and irrigation water services, and storm drainage; landscaping; and removal of imported soils from west side of Bridge Road (i.e., Owl Creek Terrace Grading) including grading and hydroseeding.

The evaluation of project impacts was conducted as recommended in the Sacramento Metropolitan Air Quality Management District (SMAQMD) Guide to Air Quality Assessment in Sacramento County California Environmental Quality Act (CEQA) Guide (SMAQMD 2023), which is broken down by chapters covering the environmental review, construction, operations, toxic air contaminants, greenhouse gases, odors, and cumulative components and are incorporated into this technical document by reference.

2 PROJECT LOCATION AND DESCRIPTION

2.1 Project Location

The proposed project is located in the city of Sacramento, Sacramento County, California (Figure 1). The project site is approximately 8.33 acres and is located at 3615 Auburn Boulevard. The project site is located near the Bridge Road and Auburn Boulevard intersection and contains a section of Bridge Road.

The project site is located within the larger Del Paso Regional Park and is surrounded by parkland and recreational fields. Renfree Field is bounded by the natural areas of Del Paso Regional Park to the East Arcade Creek and Park Road to the north, Auburn Boulevard to the south, and Owl Creek and the Science Center to the west. Arcade Creek and a riparian buffer zone maintained as a natural area runs through the northern edge of the park, an area that is largely maintained as natural oak woodland (Figure 2).

Adjacent properties to Renfree Field are primarily in unincorporated Sacramento County and are composed of a residential neighborhood to the north along the north side of Park Road, commercial properties to the east of the Auburn Boulevard on- and off-ramps, a mix of residential and commercial

properties to the south along the south side of Auburn Boulevard, and the former location of the Discovery Science and Space Museum to the west (as well as other areas of the larger Del Paso Regional Park). Immediately south of the project site is a Quik Stop gasoline station and rest stop, at the southeast corner of Auburn Boulevard and Annadale Lane intersection. Arcade Fundamental Middle School is located 2,100 feet southwest of the project site, and Mira Loma High School is located approximately 2,600 feet south of the project site. The Sacramento McClellan Airport is approximately 1.3 miles to the northwest (Figure 2).

Renfree Field is currently developed as a public park with a baseball field, a playground, and two parking lots including a 126-space parking lot on the west side accessed via Auburn Boulevard and Bridge Road, and a 21-space parking lot on the east side of Renfree Field accessed directly from Auburn Boulevard. The project site contains a walking trail and an equestrian trail loop that connects to the larger Del Paso Regional Park. The project site terrain is generally level. Existing vegetation is composed of turf grass on the baseball field, and non-native deciduous trees around the parking lots and playground area. The perimeter of the project site contains Valley Oak woodland.

The proposed project would renovate Renfree Field with two baseball fields (Field 1 and Practice Field 2) with an overlapping outfield area along the existing baseball field's first base line between the play structure and eastern parking lot. Practice Field 2 would be located north of the eastern parking lot and would have 30-foot backstop fencing. A 210-foot-by-330-foot soccer field would be striped and overlap in the outfield area. Associated infrastructure such as bleachers, bullpens, shaded dugouts, lighting, and connecting sidewalks would be replaced. The northern portion of the western parking lot would be redesigned to include a full-sized asphalt basketball court and two pickleball courts with benches and fencing. The southern portion of the existing western parking lot would be redesigned to accommodate an approximately 77-space vehicle parking lot with two-way access via Bridge Road. The proposed on-site walkway and right-of-way improvements along the north side of Auburn Boulevard would extend from the east at the existing children's playground west across Bridge Road to the edge of the Owl Creek riparian area and would connect the new and existing park features. The proposed project would also include new lighting for the walkway, parking lot, sports courts, and baseball fields. New lighting for the baseball fields would replace the existing light towers and would be oriented along the perimeter of the field to accommodate lighting for the two baseball fields and soccer field. There would be approximately eight new sports light posts and each would be approximately 60 feet tall (roughly the same height as the existing light towers that would be removed). Hydroseeding of the Owl Creek Terrace would occur immediately west of Bridge Road, where excess soil has been dumped in the past. Sacramento Municipal Utility District and Pacific Gas & Electricity (PG&E) provides electricity and natural gas to Sacramento County through existing infrastructure. Natural gas would not be used during project operation.

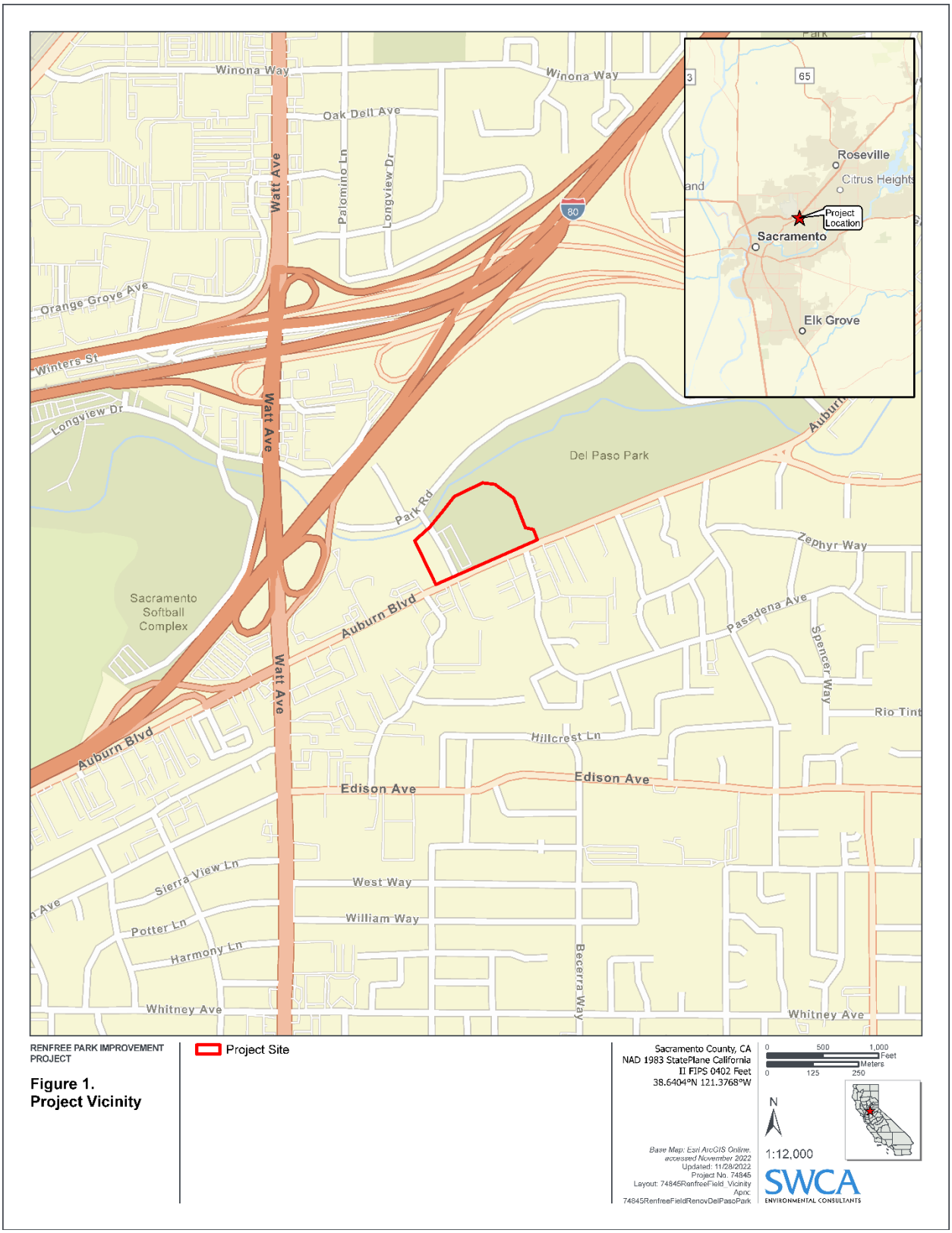


Figure 1. Vicinity map.



Figure 2. Project location.

2.2 Construction Time Frame and Phasing

Construction of the project, from mobilization to the site to final completion, is expected to occur over an approximately 8-10-month period, from March 2023 until the end of December 2023. The project would be constructed in seven phases (some occurring concurrently): 1) demolition (including demolition of paved area, tree removal, clearing of existing fences/bleachers/dugouts, etc. assuming 1,500 tons of material hauled away); 2) site preparation (including clearing and grubbing and hauling away of any remaining material); 3) grading and erosion control; 4) building construction 1 (including site work, irrigation, landscaping); 5) building construction 2 (including plant establishment); 6) paving (paving of parking lot and courts); and 7) finishing (including finishing activities and architectural coatings parking lot and courts). All construction activities, including construction staging of equipment, would be situated entirely within the project site. Typical construction equipment would be used during all phases of project construction and would be stored within the staging area, potentially including graders, excavators, dozers, and backhoes. Once construction is completed the project would be operational sports courts, ball fields and soccer field with associate parking area.

3 ENVIRONMENTAL SETTING

The project is located in Sacramento County within the Sacramento Valley Air Basin (SVAB), which consists of the entirety of Sacramento, Shasta, Tehama, Glenn, Butte, Colusa, Sutter, Yuba, and Yolo Counties; the western portion of Placer County; and the eastern portion of Solano County. The SMAQMD has full jurisdiction within all Sacramento County. The ambient concentrations of air pollutants are determined by the amount of emissions released by the sources of air pollutants and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources.

3.1 Overview of Air Pollution and Potential Health Effects

3.1.1 Criteria Air Pollutants

Both the federal and state governments have established ambient air quality standards for outdoor concentrations of specific pollutants in order to protect the public health and welfare. These pollutants are referred to as "criteria air pollutants" and the national and state standards have been set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly with a margin of safety; and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

Certain air pollutants have been recognized to cause notable health problems and consequential damage to the environment, either directly or in reaction with other pollutants due to their presence in elevated concentrations in the atmosphere. Such pollutants have been identified and regulated as part of the overall endeavor to prevent further deterioration and facilitate improvement in the air quality with the Air Basin. The criteria air pollutants for which national and state standards have been promulgated and which are most relevant to current air quality planning and regulation in the Air Basin include carbon monoxide (CO), ozone (O_3), particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead, sulfates, and hydrogen sulfide (H_2S). These pollutants, as well as volatile organic compounds (VOCs) and toxic air contaminants (TACs), are discussed in the following paragraphs. The national and state criteria pollutants and the applicable ambient air quality standards are listed in Table 1.

3.1.1.1 OZONE

O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly oxides of nitrogen (NO_x) and VOCs. The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric ozone) and at the Earth's surface in the troposphere (ozone). The O_3 that the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O_3. Stratospheric, or "good" O_3 occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O_3 layer, plant and animal life would be seriously harmed.

O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2022a). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

3.1.1.2 NITROGEN DIOXIDE

NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O_3. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2022a).

3.1.1.3 CARBON MONOXIDE

CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as the project location, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions (EPA 2022a).

3.1.1.4 SULFUR DIOXIDE

SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.

SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter, SO_2 can injure lung tissue and reduce visibility and the level of sunlight. SO_2 can also yellow plant leaves and erode iron and steel (EPA 2022a).

3.1.1.5 PARTICULATE MATTER

Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Coarse particulate matter (PM_{10}) is 10 microns or less in diameter and is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter ($PM_{2.5}$) is 2.5 microns or less in diameter and is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SOx), NO_x, and VOCs.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the bloodstream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in $PM_{2.5}$ and PM_{10} (EPA 2022a).

3.1.1.6 LEAD

Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the

phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient (IQ) performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead (EPA 2022a).

3.1.1.7 OTHERS

Sulfates. Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO_2 in the atmosphere. Sulfates can result in respiratory impairment, as well as reduced visibility.

Vinyl Chloride. Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

Hydrogen Sulfide. H_2S is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of H_2S include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to H_2S can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

3.1.2 Volatile Organic Compounds

VOCs are typically formed from combustion of fuels and/or released through evaporation of organic liquids. Some VOCs are also classified by the State as TACs. While there are no specific VOC ambient air quality standards, VOC is a prime component (along with NO_x) of the photochemical processes by which such criteria pollutants as O_3, NO_2, and certain fine particles are formed. They are, thus, regulated as "precursors" to the formation of those criteria pollutants.

3.1.3 Toxic Air Contaminants

TACs refer to a diverse group of "non-criteria" air pollutants that can affect human health but have not have ambient air quality standards established for them. This is not because they are fundamentally different from the pollutants discussed above, but because their effects tend to be local rather than regional. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the state of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hot spots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

The federal TACs are air pollutants that may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health, although there are no ambient standards established for TACs. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or other acute (short-term) or chronic (long-term) health problems. For TACs that are known or suspected carcinogens, the CARB has consistently found that there are no levels or thresholds below which exposure is risk free. Individual TACs vary greatly in the risks they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another. For certain TACs, a unit risk factor can be developed to evaluate cancer risk. For acute and chronic health effects, a similar factor, called a Hazard Index, is used to evaluate risk. TACs are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment (OEHHA). Examples of TAC sources include industrial processes, dry cleaners, gasoline stations, paint and solvent operations, and fossil fuel combustion sources. The TAC that is relevant to the implementation of the project include diesel particulate matter (DPM).

DPM was identified as a TAC by the CARB in August 1998 (CARB 1998). DPM is emitted from both mobile and stationary sources. In California, on-road diesel-fueled vehicles contribute approximately 40% of the statewide total, with an additional 57% attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources, contributing about 3% of emissions, include shipyards, warehouses, heavy-equipment repair yards, and oil and gas production operations. Emissions from these sources are from diesel-fueled internal combustion engines. Stationary sources that report DPM emissions also include heavy construction, manufacturers of asphalt paving materials and blocks, and diesel-fueled electrical generation facilities.

Exposure to DPM can have immediate health effects. DPM can have a range of health effects including irritation of eyes, throat, and lungs, causing headaches, lightheadedness, and nausea. Exposure to DPM also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. Children, the elderly, and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to fine-particle pollution. In California, DPM has been identified as a carcinogen.

CARB has adopted and implemented a number of regulations to reduce emissions of DPM from stationary and mobile sources. Several of these regulatory programs affect medium- and heavy duty diesel trucks that represent the bulk of DPM emissions from California highways. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008, CARB approved a new regulation to reduce emissions of DPM and nitrogen oxides from existing on-road heavy-duty diesel fueled vehicles, including those used at construction sites. The regulation requires affected vehicles to meet specific performance requirements between 2014 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. Therefore, as of January 1, 2023 all trucks and buses are 2010 or newer model year engines.

Naturally occurring asbestos areas are identified based on the type of rock found in the area. Asbestos-containing rocks found in California are ultramafic rocks, including serpentine rocks. Asbestos has been designated a TAC by the CARB and is a known carcinogen. When this material is disturbed in connection with construction, grading, quarrying, or surface mining operations, asbestos-containing dust can be generated. Exposure to asbestos can result in adverse health effects such as lung cancer, mesothelioma (cancer of the linings of the lungs and abdomen), and asbestosis (scarring of lung tissues that results in constricted breathing) (Van Gosen and Clinkenbeard 2011).

Naturally Occurring Asbestos (NOA) is prevalent in at least 44 of California's 58 counties. Asbestos is the name for a group of naturally occurring silicate minerals. Asbestos may be found in serpentine, other

ultramafic and volcanic rock. When rock containing NOA is broken or crushed, asbestos may become released and become airborne, causing a potential health hazard. To reduce exposure to asbestos when these soils are disturbed CARB adopted the Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying and Surface Mining Operations. This statewide regulation is applicable to grading or any other projects disturbing soil in areas of California where asbestos may exist, as determined by the California Geological Survey (CGS). The ATCM applies to any size construction project although there are additional notification requirements for projects that exceed one acre. In SMAQMD, prior to any construction, owners or operators must either apply for an Asbestos Dust Mitigation Plan (ADMP) or test out of the ATCM requirements with a Geologic Evaluation. Areas and parcels moderately likely to contain naturally occurring asbestos are located in the eastern parts of Sacramento County, Folsom and Rancho Murieta. The project is not located in a geologic setting with a potential to host asbestos and, therefore, an asbestos will not be an issue for this project (CARB 2000a).

Table 1. State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards	
			Primary	Secondary
Ozone (O3)	1 hour	0.09 ppm (180 µg/m³)	--	Same as Primary
	8 hour	0.070 ppm (137 µg/m³)	0.070 ppm (137 µg/m³)	
Respirable particulate matter (PM10)	24 hour	50 µg/m³	150 µg/m³	Same as Primary
	Annual mean	20 µg/m³	--	
Fine particulate matter (PM2.5)	24 hour	--	35 µg/m³	Same as Primary
	Annual mean	12 µg/m³	12.0 µg/m³	15 µg/m³
Carbon monoxide (CO)	1 hour	20 ppm (23 µg/m³)	35 ppm (40 mg/m³)	--
	8 hour	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	--
Nitrogen dioxide (NO2)	1 hour	0.18 ppm (339 µg/m³)	100 ppb (188 µg/m³)	--
	Annual mean	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)	Same as Primary
Sulfur dioxide (SO_2)	1 hour	0.25 ppm (655 µg/m³)	75 ppb (196 µg/m³)	--
	3 hour	--	-	0.5 ppm (1300 µg/m³)
	24 hour	0.04 ppm (105 µg/m³)	0.14 ppm	--
	Annual mean	--	0.030 ppm	--
Lead	30-day average	1.5 µg/m³	-	--
	Calendar quarter	--	1.5 µg/m³	Same as Primary
	Rolling 3-month average	--	0.15 µg/m³	Same as Primary
Visibility reducing particles	8 hour	10-mile visibility standard, extinction of 0.23 per kilometer	No National Standards	
Sulfates	24 hour	25 µg/m³		
Hydrogen sulfide (H2S)	1 hour	0.03 ppm (42 µg/m³)		
Vinyl chloride	24 hour	0.01 ppm (265 µg/m³)		

Source: CARB (2016)
Notes: ppm = parts per million; ppb = parts per billion; µg/m³ = micrograms per cubic meter; -- = no standard.
National annual $PM_{2.5}$ primary standard is currently being proposed to be reduced to 9-10 µg/m³

3.1.4 Odors

A qualitative assessment should be made as to whether a project has the potential to generate odorous emissions of a type or quantity that could meet the statutory definition for nuisance, i.e., odors "which cause detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which may endanger the comfort, repose, health, or safety of any such person or the public, or which may cause, or have a natural tendency to cause, injury or damage to business or property" (Health & Safety Code § 41700). While offensive odors usually do not cause any physical harm, they can be unpleasant enough to lead to considerable distress among the public and generate citizen complaints to local governments and the SMAQMD. The Air District's Rule 402 (Nuisance) also prohibits any person or source from emitting

air contaminants that cause detriment, nuisance, or annoyance to a considerable number of persons or the public. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

3.2 Existing Air Quality Conditions in the Project Area

3.2.1 Regional Air Quality

The SVAB is a relatively flat area bordered by the north Coast Ranges to the west and the northern Sierra Nevada to the east. Air flows into the SVAB through the Carquinez Strait, the only breach in the western mountain barrier, and moves across the Sacramento–San Joaquin Delta (Delta) from the San Francisco Bay Area.

The Mediterranean climate type of the SVAB is characterized by hot, dry summers and cool, rainy winters. During the summer, daily temperatures range from 50 degrees Fahrenheit (°F) to more than 100°F. The inland location and surrounding mountains shelter the area from much of the ocean breezes that keep the coastal regions moderate in temperature. Most precipitation in the area results from air masses that move in from the Pacific Ocean, usually from the west or northwest, during the winter months. More than half the total annual precipitation falls during the winter rainy season (November through February); the average winter temperature is a moderate 49°F. Also characteristic of SVAB winters are periods of dense and persistent low-level fog, which are most prevalent between storms. The prevailing winds are moderate in speed and vary from moisture-laden breezes from the south to dry land flows from the north.

The mountains surrounding the SVAB create a barrier to airflow, which leads to the entrapment of air pollutants when meteorological conditions are unfavorable for transport and dilution. The highest frequency of poor air movement occurs in the fall and winter when high-pressure cells are often present over the SVAB. The lack of surface wind during these periods, combined with the reduced vertical flow caused by a decline in surface heating, reduces the influx of air and leads to the concentration of air pollutants under stable metrological conditions. Surface concentrations of air pollutant emissions are highest when these conditions occur in combination with agricultural burning activities or with temperature inversions, which hamper dispersion by creating a ceiling over the area and trapping air pollutants near the ground.

May through October is ozone season in the SVAB. This period is characterized by poor air movement in the mornings with the arrival of the Delta sea breeze from the southwest in the afternoons. In addition, longer daylight hours provide a plentiful amount of sunlight to fuel photochemical reactions between reactive organic gases (ROG) and NO_X, which result in ozone formation. Typically, the Delta breeze transports air pollutants northward out of the SVAB; however, a phenomenon known as the Schultz Eddy prevents this from occurring during approximately half of the time from July to September. The Schultz Eddy phenomenon causes the wind to shift southward and blow air pollutants back into the SVAB. This phenomenon exacerbates the concentration of air pollutant emissions in the area and contributes to the area violating the ambient air quality standards.

The local meteorology of the City and surrounding area is represented by measurements recorded at the Western Regional Climate Center Sacramento Executive Airport Station. The normal annual precipitation is approximately 17.24 inches. January temperatures range from a normal minimum of 37.8°F to a normal maximum of 53.5°F. July temperatures range from a normal minimum of 58.2°F to a normal maximum of 92.7°F (WRCC 2016). The prevailing wind direction is from the south (WRCC 2002).

3.2.2 Regional Attainment Status

Depending on whether the applicable ambient air quality standards are met or exceeded, the air basin is classified on a federal and state level as being in "attainment" or "nonattainment." The EPA and CARB determine the air quality attainment status of designated areas by comparing ambient air quality measurements from state and local ambient air monitoring stations with the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). These designations are determined on a pollutant-by-pollutant basis. Consistent with federal requirements, an unclassifiable/unclassified designation is treated as an attainment designation. The Sacramento County region of the SMAQMD is currently designated a nonattainment area for California and National 8-hour O_3 and National 24-hour $PM_{2.5}$. Therefore, is considered a "attainment/unclassified" area for all other pollutants (EPA 2023a).

3.2.3 Local Air Quality

Air pollutants emissions are generated in the local vicinity by stationary and area-wide sources, such as commercial and industrial activity, space and water heating, landscape maintenance, consumer products, and mobile sources primarily consisting of automobile traffic. Area-wide sources are the primary source of pollutants in the local vicinity.

3.2.3.1 EXISTING CRITERIA POLLUTANT LEVELS AT NEARBY MONITORING STATIONS

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project area have been documented and measured by CARB. The nearest station is the Sacramento – Del Paso Manor Monitoring Station, which monitors O_3, NO_2, PM_{10}, and $PM_{2.5}$. Data from this monitoring stations are summarized in Table 2, Ambient Air Quality Monitoring Summary. The data show violations of the state and federal O_3 standards and federal $PM_{2.5}$ standard. In recent years, California has been plagued by an unprecedented number of wildfires that have produced dense palls of smoke in the Bay Area and beyond. The air quality data collected by CARB in Table 2 include exceptional events, including wildfires. The GHG inventory for California for years 2015–2019 is presented in Table 3. The 2016 GHG inventory for Sacramento from the City of Sacramento Climate Action and Adaptation Plan is presented in Table 4. The national and state criteria pollutants and the applicable ambient air quality standards are listed above in Table 1.

Table 2. Summary of Ambient Air Quality Monitoring Summary

Pollutant		Year		
		2019	**2020**	**2021**
O3	Maximum 1-hour concentration (ppm)	0.087	0.120	0.110
	Days exceeding CAAQS (0.09 ppm)	0	4	7
	Maximum 8-hour concentration (ppm)	0.069	0.085	0.091
	Days exceeding NAAQS (0.07 ppm)	0	10	17
	Days exceeding CAAQS (0.07 ppm)	0	10	17
NO2	Maximum 1-hour concentration (ppb)	0.051	0.046	0.024
	Days exceeding CAAQS (0.18 ppm)	0	0	0
PM10	Maximum 24-hour concentration (µg/m^3)	53.0	188.0	63.0
	Days exceeding NAAQS (50 µg/m^3)	0	1	0
PM2.5	Maximum 24-hour concentration (µg/m^3)	41.4	147.3	90.0
	Days exceeding NAAQS (35 µg/m^3)	3	27	5

Source: CARB (2023a)
Notes: AAM = annual arithmetic mean; ppm = parts per million; µg/m^3 = micrograms per cubic meter
Data for O3, NO2, PM10 and PM2.5 was obtained from the Sacramento – Del Paso Manor Monitoring Station

Table 3. California Greenhouse Gas Inventory

Parameter	Unit*	Year				
		2015	**2016**	**2017**	**2018**	**2019**
Transportation	MMT CO_2e	166.2	169.8	171.2	169.6	166.1
	Percentage	38.5%	40.4%	41.2%	40.7%	40.6%
Electric power	MMT CO_2e	84.8	68.6	62.1	63.1	58.8
	Percentage	19.6%	16.3%	14.9%	15.2%	14.4%
Industrial	MMT CO_2e	90.3	89	88.8	89.2	88.2
	Percentage	20.9%	21.2%	21.4%	21.4%	21.5%
Commercial and residential	MMT CO_2e	38.8	40.6	41.3	41.4	43.8
	Percentage	9.0%	9.7%	9.9%	9.9%	10.7%
Agriculture	MMT CO_2e	33.5	33.3	32.5	32.7	31.8
	Percentage	7.8%	7.9%	7.8%	7.9%	7.8%
High global warming potential (GWP)	MMT CO_2e	18.6	19.2	20	20.4	20.6
	Percentage	4.3%	4.6%	4.8%	4.9%	5.0%
Total Net Emissions	MMT CO_2e	**432.2**	**420.5**	**415.9**	**416.4**	**409.3**

Source: California GHG Inventory for 2000–2019 (CARB 2021)
* MMT CO2e = million metric tons carbon dioxide equivalent

Table 4. Sacramento 2016 Greenhouse Gas Inventory

Parameter	Unit*	Year
		2016
Residential Electricity	MMT CO_2e	0.318
Residential Natural Gas	MMT CO_2e	0.318
Industrial and Commercial Electricity	MMT CO_2e	0.490
Commercial Natural Gas	MMT CO_2e	0.154
District Natural Gas	MMT CO_2e	0.018
Transportation	MMT CO_2e	1.93
Generated Waste	MMT CO_2e	0.134
Waste in Place	MMT CO_2e	0.027
Wastewater	MMT CO_2e	0.020
Water	MMT CO_2e	0.010
Total Net Emissions	MMT CO_2e	**3.42**

Source: City of Sacramento Climate Action and Adaptation Plan (City of Sacramento 2023)

* MMT CO2e = million metric tons carbon dioxide equivalent

3.2.3.2 EXISTING HEALTH RISK IN THE PROJECT VICINITY

OEHHA, on behalf of the California EPA (CalEPA), provides a screening tool called CalEnviroScreen that can be used to help identify California communities disproportionately burdened by multiple sources of pollution. The project is located in Census Tract 6067007504, which has 2,081 people. To determine the existing level of TACs in the area, the CalEnviroScreen indicator that represents modeled air concentration of chemical releases from large facility emissions in and nearby the census tract was identified. This indicator takes the air concentration and toxicity of the chemical to determine the toxic release score. The data is averaged over 2017 to 2019 and the toxic release indicator scores range from 0 to 96,985. The score for this census tract is 78.82 which means the toxic release percentile for this census tract is 21, meaning it is higher than 21% of the census tracts in California (OEHHA 2021).

The CalEnviroScreen for diesel particulate matter was also determined, as diesel particulate matter is also a TAC. This indicator represents how much diesel particulate matter is emitted into the air within and near the populated parts of the census tracts. The data from 2016 indicate that sources of diesel PM within and nearby the populated parts of this census tract emit 0.307 tons per year. The diesel PM percentile for this census tract is 77, meaning it is higher than 77% of the census tracts in California. Diesel emissions in California range between 0 - 15 tons per year. These indicators show that health risk in the project vicinity is moderate. Overall, according to CalEnviroScreen, the project is located in the 63rd percentile, which means the project area is slightly higher than average in comparison to other communities within California (OEHHA 2021).

3.2.3.3 SENSITIVE USES

Some population groups, including children, elderly, and acutely and chronically ill persons (especially those with cardiorespiratory diseases), are considered more sensitive to air pollution than others. A sensitive receptor is a person in the population who is particularly susceptible to health effects due to

exposure to an air contaminant. The following are land uses where sensitive receptors are typically located:

- schools, playgrounds and childcare centers
- long-term health care facilities
- rehabilitation centers
- convalescent centers
- hospitals
- retirement homes
- residences

Construction equipment, vehicle, and material movement activities would occur throughout the project site. During the approximately 10-month construction period, work activities would take place between the hours of 7:00 a.m. and 6:00 p.m., Monday to Saturday, and between 9:00 a.m. and 6:00 p.m. on Sunday. The closest sensitive receptors to the project site include the single-family residences approximately 230 feet north-northwest of the project site along Park Boulevard, or the Sunset Gardens apartment complex, which is approximately 300 feet southeast of the project site across Auburn Boulevard. There is a small playground located approximately 30 feet south of the primary work areas where field renovations and would occur. The playground would remain open during project construction, although it is unlikely to attract playground users during the day when construction activities are happening. The playground is an existing park feature and users would be exposed to TACS only while recreating on the playground, which represents less exposure than nearby residents. However, implementation of the proposed project would not result in the long-term operation of any emission sources that would adversely affect nearby sensitive receptors. Short-term (8-10 months) construction activities could result in temporary increases in pollutant concentrations. The construction-related emissions would be short term and located at different locations within the project site. Although construction would occur over 8-10 months, construction at any one site would last for a much shorter time. The limited duration and limited quantities of construction emissions ensure that no individual receptor would be exposed to substantial pollutant concentrations. During construction, the SMAQMD Best Management Practices (BMPs) would minimize construction impacts by reducing dust and exhaust emissions.

3.3 Greenhouse Gas Setting

Global climate change refers to the changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation, and storms. Global warming, a related concept, is the observed increase in the average temperature of the Earth's atmosphere and oceans in recent decades. There is a general scientific consensus that global climate change is occurring, caused in whole or in part by increased emissions of GHGs that keep the Earth's surface warm by trapping heat in the Earth's atmosphere, in much the same way as glass traps heat in a greenhouse. The Earth's climate is changing because human activities, primarily the combustion of fossil fuels, are altering the chemical composition of the atmosphere through the buildup of GHGs. GHGs are released by the combustion of fossil fuels, land clearing, agriculture, and other activities, and lead to an increase in the greenhouse effect. While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy.

Regarding the adverse effects of global warming, as reported by Assembly Bill 2538: "Global warming poses a serious threat to the economic well-being, public health, natural resources and the environment of California." Over the past few decades, energy intensity of the national and state economy has been

declining due to the shift to a more service-oriented economy. California ranked fifth lowest among the States in carbon dioxide (CO_2) emissions from fossil fuel consumption per unit of gross state product. However, in terms of total CO_2 emissions California is second only to Texas in the nation and is the 16th largest source of climate change emissions in the world, exceeding most nations.

3.3.1 Greenhouse Gas Background

GHGs include CO_2, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Carbon is the most abundant GHG. Other GHGs are less abundant but have higher global warming potential than CO_2. Thus, emissions of other GHGs are frequently expressed in the equivalent mass of CO_2, denoted as CO_2e. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions. The primary GHGs attributed to global climate change are described below.

3.3.1.1 CARBON DIOXIDE (CO_2)

In the atmosphere, carbon generally exists in its oxidized form, as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals, and plants, volcanic outgassing, decomposition of organic matter, and evaporation from the oceans. Anthropogenic sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. Anthropogenic sources of CO_2 amount to over 30 billion tons per year, globally (Friedlingstein et al. 2022). Natural sources release substantially larger amounts of CO_2. Nevertheless, natural removal processes, such as photosynthesis by land and ocean-dwelling plant species, cannot keep pace with this extra input of human-made CO_2, and, consequently, the gas is building up in the atmosphere.

3.3.1.1.1 Methane (CH_4)

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Decomposition occurring in landfills accounts for the majority of human-generated CH_4 emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation, manure management, and rice cultivation are also significant sources of CH_4 in California.

3.3.1.1.2 Nitrous Oxide (N_2O)

Nitrous oxide is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. Nitrous oxide is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion produce N_2O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N_2O emissions in California.

3.3.1.1.3 Hydrofluorocarbons, Perfluorocarbons, Sulfur Hexafluoride

Hydrofluorocarbons (HFCs) are primarily used as substitutes for ozone-depleting substances regulated under the Montreal Protocol (1987), an international treaty that was approved on January 1, 1989, and was designated to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for ozone depletion. Perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6) are emitted from various industrial processes, including aluminum smelting,

semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no primary aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry leads to greater use of PFCs.

The magnitude of the impact on global warming differs among the GHGs. The effect each GHG has on climate change is measured as a combination of the volume of its emissions, and its global warming potential (GWP). GWPs are one type of simplifies index based upon radiative properties used to estimate the potential future impacts of emissions of different gases upon the climate system, expressed as a function of how much warming would be caused by the same mass of CO_2. Thus, GHG emissions are typically measured in terms of pounds or tons of CO_2 equivalents (CO_2e). GWP are based on a number of factors, including the radiative efficiency (heat-absorbing ability) of each gas relative to that of CO_2, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO_2. The larger GWP, the more that a given gas warms the Earth compared to CO_2 over that time period. HFCs, PFCs, and SF_6 have a greater "global warming potential" than CO_2. In other words, these other GHGs have a greater contribution to global warming than CO_2 on a per-mass basis. However, CO_2 has the greatest impact on global warming because of the relatively large quantities of CO_2 emitted into the atmosphere.

A summary of the atmospheric lifetime and GWP of selected gases is presented in Table 5. As indicated in this table, GWPs range from 1 to 23,500 based on IPCC Assessment Reports. IPCC has released three assessment reports (AR4, AR5, and AR6) with updated GWPs, however, CARB reports the statewide GHG inventory using the AR4 GWPs, which is consistent with international reporting standards. By applying the GWP ratios, project-related equivalent mass of CO_2, denoted as CO_2e emissions can be tabulated in metric tons per year.

Table 5. Global Warming Potentials

Greenhouse Gas	GWP Values for 100-year Time Horizon		
	AR4*	AR5	AR6
Carbon dioxide (CO_2)	1	1	1
Methane (CH_4)	25	28	Fossil origin – 29.8 Non-fossil origin – 27.2
Nitrous oxide (N_2O)	298	265	273
Select hydrofluorocarbons (HFCs)	124–14,800	4–12,400	–
Sulfur hexafluoride (SF_6)	22,800	23,500	–

Sources: IPCC (2007, 2013).

* For consistency with the EPA and its Inventory of Greenhouse Gas Reporting, we have represented values from AR4 of the IPCC report in this report.

3.3.2 Greenhouse Gas Emissions Inventories

3.3.2.1 UNITED STATES GHG EMISSIONS

Per the EPA's *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2021* (EPA 2023), total U.S. GHG emissions have decreased by 6.6% from 1990 to 2020; 2005 emissions were 15.8% above 1990 levels (EPA 2022b). The largest source of GHG emissions from human activities in the United States is from burning of fossil fuels for electricity, heat, and transportation. The latest national GHG emissions are for calendar year 2021, in which total gross U.S. GHG emissions were reported at 6,340.2 million metric tons carbon dioxide equivalent (MMT CO_2e). Emissions decreased from 2019 to 2021 by 277.7 MMT CO_2e and net emissions (including sinks) were 5,586.0 MMT CO_2e (EPA 2023).

3.3.2.2 STATEWIDE GHG EMISSIONS

According to California's 2000–2019 GHG emissions inventory, California emitted 409.3 MMT CO_2e in 2019 (CARB 2021). The sources of GHG emissions in California include transportation, industrial uses, electric power production from both in-state and out-of-state sources, commercial and residential uses, agriculture, high global-warming potential substances, and recycling and waste. The California GHG emission source categories (as defined in CARB's 2008 Scoping Plan) and their relative contributions in 2019 are presented in Table 3. Total GHG emissions in 2019 were approximately 22.9 MMT CO_2e less than 2016 emissions. Based on data presented, the 2016 statewide GHG inventory fell below 1990 levels, consistent with AB 32. The declining trend in GHG emissions, coupled with programs that will continue to provide additional GHG reductions going forward, demonstrates that California will continue to reduce emissions below the 2020 target of 431 $MTCO_2e$ (CARB 2022a).

3.3.2.3 COUNTY GHG EMISSIONS

According to the City of Sacramento Climate Action and Adaptation Plan, Sacramento's GHG emissions inventory shows the city of Sacramento emitted 3.42 MMT CO_2e in 2016 (City of Sacramento 2023). The sources of GHG emissions in Sacramento include transportation, electricity, natural gas, waste and wastewater. The Sacramento GHG emission source categories and their relative contributions in 2016 are presented in Table 4. Sacramento achieved a 20% reduction below 2005 levels in 2016, exceeding the 2020 target. Based on data presented, the 2016 Sacramento GHG inventory fell below 1990 levels, consistent with AB 32. The declining trend in GHG emissions, coupled with programs that will continue to provide additional GHG reductions going forward, demonstrates that Sacramento will continue to reduce emissions below the 2020 target of 431 $MTCO_2e$ (City of Sacramento 2023).

4 REGULATORY SETTING

Federal, state, and local agencies have set ambient air quality standards for certain air pollutants through statutory requirements and have established regulations and various plans and policies to maintain and improve air quality, as described below.

4.1 Federal

4.1.1 Federal Clean Air Act

4.1.1.1 AIR QUALITY

The federal Clean Air Act (CAA), which was passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The CAA delegates primary responsibility for clean air to the EPA. The EPA develops rules and regulations to preserve and improve air quality and delegates specific responsibilities to state and local agencies. Under the act, the EPA has established the NAAQS for six criteria air pollutants that are pervasive in urban environments and for which state and national health-based ambient air quality standards have been established. Ozone (O_3), CO, NO_2, SO_2, lead, and particulate matter (PM_{10} and $PM_{2.5}$) are the six criteria air pollutants. Ozone is a secondary pollutant; NO_X and VOCs are of particular interest as they are precursors to ozone formation. The NAAQS are divided into primary and secondary standards; the primary standards are set to protect human health within an adequate margin of safety, and the secondary standards are set to protect environmental values, such as plant and animal life. The standards for all criteria pollutants are presented in Table 1.

The CAA requires the EPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The act also mandates that the State submit and implement a State Implementation Plan for areas not meeting the NAAQS. These plans must include pollution control measures that demonstrate how the standards will be met.

4.1.1.2 GREENHOUSE GAS EMISSIONS

The Supreme Court of the United States (SCOTUS) ruled in Massachusetts v. Environmental Protection Agency, 127 S.Ct. 1438 (2007), that CO_2 and other GHGs are pollutants under the federal CAA, which the EPA must regulate if it determines they pose an endangerment to public health or welfare. SCOTUS did not mandate that the EPA enact regulations to reduce GHG emissions. Instead, SCOTUS found that the EPA could avoid taking action if it found that GHGs do not contribute to climate change or if it offered a "reasonable explanation" for not determining that GHGs contribute to climate change.

On April 17, 2009, the EPA issued a proposed finding that GHGs contribute to air pollution that may endanger public health or welfare. On April 24, 2009, the proposed rule was published in the Federal Register under Docket ID No. EPA-HQ-OAR-2009~0171. The EPA stated that high atmospheric levels of GHGs "are the unambiguous result of human emissions and are very likely the cause of the observed increase in average temperatures and other climatic changes." The EPA further found that "atmospheric concentrations of greenhouse gases endanger public health and welfare within the meaning of Section 202 of the Clean Air Act." The findings were signed by the EPA Administrator on December 7, 2009. The final findings were published in the Federal Register on December 15, 2009. The final rule was effective on January 14, 2010. While these findings alone do not impose any requirements on industry or other entities, this action is a prerequisite to regulatory actions by the EPA, including, but not limited to, GHG emissions standards for light-duty vehicles.

On July 20, 2011, the EPA published its final rule deferring GHG permitting requirements for CO_2 emissions from biomass-fired and other biogenic sources until July 21, 2014. Environmental groups challenged the deferral. In September 2011, EPA released an "Accounting Framework for Biogenic CO2 Emissions from Stationary Sources," which analyses accounting methodologies and suggests implementation for biogenic CO_2 emitted from stationary sources.

On April 4, 2012, the EPA published a proposed rule to establish, for the first time, a new source performance standard for GHG emissions. Under the proposed rule, new fossil fuel–fired generating units larger than 25 megawatts are required to limit emissions to 1,000 pounds of CO_2 per megawatt-hour on an average annual basis, subject to certain exceptions.

On April 17, 2022, the EPA issued emission rules for oil production and natural gas production and processing operations, which are required by the CAA under Title 40 of the Code of Federal Regulations (CFR) Parts 60 and 63. The final rules include the first federal air standards for natural gas wells that are hydraulically fractured, along with requirements for several other sources of pollution in the oil and gas industry that currently are not regulated at the federal level.

4.1.2 Toxic Substance Control Act

The Toxic Substances Control Act (TSCA) of 1976 provides the EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. TSCA became law on October 11, 1976, and became effective on January 1, 1977. The TSCA authorized the EPA to secure information on all new and existing chemical substances, as well as to control any of the substances that were determined to cause unreasonable risk to public health or the environment.

Congress later added additional titles to the Act, with this original part designated at Title I – Control of Hazardous Substances. TSCA regulatory authority and program implementation rests predominantly with the federal government (i.e., the EPA). However, the EPA can authorize States to operate their own, EPA-authorized programs for some portions of the statute. TSCA Title IV allows States the flexibility to develop accreditation and certification programs and work practice standards for lead-related inspection, risk assessment, renovation, and abatement that are at least as protective as existing federal standards.

4.1.3 National Emission Standards for Hazardous Air Pollutants (Asbestos)

The EPA's air toxics regulation for asbestos is intended to minimize the release of asbestos fibers during activities involving the handling of asbestos. Asbestos was one of the first hazardous air pollutants regulated under the air toxics program as there are major health effects associated with asbestos exposure (lung cancer, mesothelioma, and asbestosis). On March 31, 1971, the EPA identified asbestos as a hazardous pollutant, and on April 6, 1973, EPA promulgated the Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP), currently found in 40 CFR 61(M). The Asbestos NESHAP has been amended several times, most comprehensively in November 1990. In 1995, the rule was amended to correct cross-reference citations to Occupational Safety and Health Administration, Department of Transportation, and other EPA rules governing asbestos. Air toxics regulations under the CAA have guidance on reducing asbestos in renovation and demolition of buildings; institutional, commercial, and industrial building; large-scale residential demolition; exceptions to the asbestos removal requirements; asbestos control methods; waste disposal and transportation; and milling, manufacturing, and fabrication.

4.2 State

4.2.1 California Clean Air Act

The California Clean Air Act (CCAA) was adopted by the CARB in 1988. The CCAA requires that all air districts in the state endeavor to achieve and maintain CAAQS for Ozone, CO, SO_2, and NO_2 by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. The CARB and local air districts are responsible for achieving CAAQS, which are to be achieved through district-level AQMPs that would be incorporated into the State Implementation Plan. In California, the EPA has delegated authority to prepare State Implementation Plans to CARB, which in turn, has delegated that authority to individual air districts. Each district plan is required to either 1) achieve a 5% annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or 2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

The State of California began to set its ambient air quality standards (i.e., CAAQS) in 1969, under the mandate of the Mulford-Carrell Act. The CCAA requires all air districts of the state to achieve and maintain the CAAQS by the earliest practical date. Table 1 shows the CAAQS currently in effect for each of the criteria pollutants, as well as the other pollutants recognized by the State. As shown in Table 1, the CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, H_2S, vinyl chloride, and visibility-reducing particles.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:

- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards

- Title 24, Part 6, CCR: Building Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code

4.2.2 California Code of Regulations

The California Code of Regulations (CCR) is the official compilation and publication of regulations adopted, amended, or repealed by the state agencies pursuant to the Administrative Procedure Act. The CCR includes regulations that pertain to air quality emissions. Specifically, Section 2485 in Title 13 of the CCR states that the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to 5 minutes at any location. In addition, Section 93115 in Title 17 of the CCR states that operation of any stationary, diesel-fueled, compression-ignition engine shall meet specified fuel and fuel additive requirements and emission standards.

4.2.3 Toxic Air Contaminants Regulations

California regulates TACs primarily through the Toxic Air Contaminant Identification and Control Act of 1983 (AB 1807, also known as the Tanner Air Toxics Act) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588 – Connelly). In the early 1980s, the CARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Tanner Air Toxics Act (AB 1807) created California's program to reduce exposure to air toxics. The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks (CARB 2011).

In August 1998, CARB identified DPM emissions from diesel-fueled engines as a TAC. In September 2000, CARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel-fueled engines and vehicles (CARB 2000b). The goal of the plan is to reduce diesel PM_{10} (inhalable particulate matter) emissions and the associated health risk by 75% in 2010, and by 85% by 2020. The plan identified 14 measures that target new and existing on-road vehicles (e.g., heavy-duty trucks and buses, etc.), off-road equipment (e.g., graders, tractors, forklifts, sweepers, and boats), portable equipment (e.g., pumps, etc.), and stationary engines (e.g., stand-by power generators, etc.). During the control measure phase, specific statewide regulations designed to further reduce DPM emissions from diesel-fueled engines and vehicles were evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce DPM emissions. The project would be required to comply with applicable diesel control measures.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment (HRA), and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- 13 CCR Chapter 10, Section 2485, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.
- 13 CCR Chapter 10, Section 2480, Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools.

- 13 CCR Section 2477 and Article 8, Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate.

4.2.4 Executive Order S-3-05, Executive Order B-30-15, and Executive Order B-55-18

In 2005, the governor issued EO S-3-05, establishing statewide GHG emissions reduction targets, as well as a process to ensure the targets are met. The order directed the Secretary of the CalEPA to report every 2 years on the State's progress toward meeting the governor's GHG emission reduction targets. The statewide GHG targets established by Executive Order S-3-05 are as follows:

- By 2010, reduce to 2000 emission levels,
- By 2020, reduce to 1990 emission levels, and
- By 2050, reduce to 80 percent below 1990 levels.

EO B-30-15, issued by Governor Brown in April 2015, established an additional statewide policy goal to reduce GHG emissions 40% below their 1990 levels by 2030. Reducing GHG emissions by 40% below 1990 levels in 2030 and by 80% below 1990 levels by 2050 (consistent with EO S-3-05) aligns with scientifically established levels needed in the United States to limit global warming below 2 degrees Celsius.

The State Legislature adopted equivalent 2020 and 2030 statewide targets in the California Global Warming Solutions Act of 2006 (also known as AB 32) and Senate Bill (SB) 32, respectively, both of which are discussed below. However, the legislature has not yet adopted a target for the 2050 horizon year. As a result of EO S-3-05, the California Action Team (CAT), led by the Secretary of CalEPA, was formed. The CAT is made of representatives from a number of state agencies and was formed to implement global warming emission reduction programs and to report on the progress made toward meeting statewide targets established under the EO. The CAT reported several recommendations and strategies for reducing GHG emissions and reaching the targets established in the EO.

The CAT stated that "smart" land use is an umbrella term for strategies that integrate transportation and land use decisions. Such strategies generally encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors. These strategies develop more efficient land use patterns within each jurisdiction or region to match population increases, workforce, and socioeconomic needs for the full spectrum of the population. "Intelligent transportation systems" is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and the movement of people, goods, and service.

EO B-55-18, issued by Governor Brown in September 2018, establishes a new statewide goal to achieve caron neutrality as soon as possible, but no later than 2045, and achieve and maintain net negative emissions thereafter. Based on this executive order, CARB would work with relevant state agencies to develop a framework for implementation and accounting that tracks progress toward this goal, as well as ensuring future scoping plans identify and recommend measures to achieve the carbon neutrality goal.

4.2.5 Assembly Bill 32 — California Global Warming Solution Act

The California Global Warming Solutions Act of 2006 (also known as AB 32) commits the State to achieving the following:

- By 2010, reduce to 2000 GHG emission levels, and
- By 2020, reduce to 1990 levels.

To achieve these goals, which are consistent with the California CAT GHG targets for 2010 and 2020, AB 32 mandates that the CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources consistent with the CAT strategies, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. In order to achieve the reductions, AB 32 requires CARB to adopt rules and regulations in an open, public process that achieves the maximum technologically feasible and cost-effective GHG reductions.

SB 32, signed September 8, 2016, updates AB 32 to include an emissions reduction goal for the year 2030. Specifically, SB 32 requires CARB to ensure that statewide GHG emissions are reduced to 40% below the 1990 level by 2030. The new plan, outlined in SB 32, involves increasing renewable energy use, imposing tighter limits on the carbon content of gasoline and diesel fuel, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

4.2.6 Climate Change Scoping Plan

In 2008, CARB approved a Climate Change Scoping Plan, as required by AB 32. Subsequently, CARB approved updates of the Climate Change Scoping Plan in 2014 (First Update) and 2017 (2017 Update), with the 2017 Update considering SB 32 (adopted in 2016) in addition to AB 32 (CARB 2014, 2017a). The First Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals (to the level of 427 MMT CO_2e) defined in the original Scoping Plan. It also evaluates how to align the State's longer-term GHG reduction strategies with other State policy priorities, such as for water, waste, natural resources, clean energy and transportation, and land use. In November 2022, the final 2022 Scoping Plan Update and Appendices was released. This 2022 Scoping Plan Update assesses progress toward the statutory 2030 target, while laying out a path to achieving carbon neutrality no later than 2045 (CARB 2022c). The 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

4.2.7 Assembly Bill 197

AB 197, signed September 8, 2016, is a bill linked to SB 32 that prioritizes efforts to reduce GHG emissions in low-income and minority communities. AB 197 requires the CARB to make available, and update at least annually on its website, the emissions of GHGs, criteria pollutants, and TACs for each facility that reports to CARB and air districts. In addition, AB 197 adds two members of the legislature to the CARB board as ex officio, non-voting members, and also creates the Joint Legislative Committee on Climate Change Policies to ascertain facts and make recommendations to the legislature concerning the State's programs, policies, and investments related to climate change.

4.2.8 Cap-and-Trade Program

The 2008 Climate Change Scoping Plan identified a cap-and-trade program as one of the strategies for California to reduce GHG emissions. The cap-and-trade program is a key element in California's climate plan. It sets a statewide limit on sources responsible for 85 percent of California's GHG emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The cap-and-trade rules came into effect on January 1, 2013, and apply to large electric power plants and large industrial plants. In 2015, fuel distributors, including distributors of heating and transportation fuels, also became subject to the cap-and-trade rules. At that stage, the program will encompass around 360 businesses throughout California and nearly 85 percent of the state's total GHG emissions. Covered entities subject to the cap-and-trade program are sources that emit more than 25,000 metric tons CO_2e ($MTCO_2e$) per year. Triggering of the 25,000 $MTCO_2e$ per year "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (Mandatory Reporting Rule).

Under the cap-and-trade regulation, companies must hold enough emission allowances to cover their emissions and are free to buy and sell allowances on the open market. California held its first auction of GHG allowances on November 14, 2012. California's GHG cap-and-trade system is projected to reduce GHG emissions to 1990 levels by the year 2020 and would achieve an approximate 80 percent reduction from 1990 levels by 2050.

4.2.9 Assembly Bill 1493 (Pavley I)

AB 1493, passed in 2002, requires the development and adoption of regulations to achieve the maximum feasible reduction in GHG emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the state. CARB originally approved regulations to reduce GHG from passenger vehicles in September 2004, which took effect in 2009. On September 24, 2009, CARB adopted amendments to these regulations that reduce GHG emissions and new passenger vehicles from 2009 through 2016. Although setting emission standards on automobiles is solely the responsibility of the EPA, the federal CAA allows California to set state-specific emission standards on automobiles, and the State first obtains a waiver from the EPA. The EPA granted California that waiver until July 1, 2009. The comparison between the AB 1493 standards and the federal Corporate Average Fuel Economy standards was completed by CARB, and the analysis determined the California emission standards were 16% more stringent through the 2016 model year and 18% more stringent for the 2020 model year. CARB is also committed to further strengthening these standards beginning with 2020 model year vehicles, to obtain a 45% GHG reduction in comparison to 2009 model years.

In March 2020, the EPA issued the Safer Affordable Fuel-Efficient Vehicles Rule (SAFE) which would roll back feel economy standards and revoke California's waiver. Under this rule, EPA would amend certain average fuel economy and GHG standards for passenger cars covering model years 2021 through 2026. In September 2019, the EPA withdrew the waiver had previously provided in California for the states GHG and Zero Emission Vehicle (ZEV) programs under Section 209 of the Clean Air Act. The withdrawal of the waiver beginning effective on Novembe[r] 26th, 2019. In response, several states including California have a lawsuit challenging the withdrawal of the EPA waiver. These actions continue to be challenged in court. As noted above, on January 20, 2021, President Biden issued an executive order directing all executive departments and agencies to take action, as appropriate, to address federal regulations and other actions taken during the last 4 years that conflict with the administration's climate and environmental justice goals, which include SAFE.

4.2.10 Executive Order S-01-07 (California Low Carbon Fuel Standard)

EO S-01-07, the Low Carbon Fuel Standard (LCFS) (issued January 18, 2007), requires a reduction of at least 10% in the carbon intensity of California transportation fuels by 2020. Regulatory proceedings and implementation of the LCFS was directed to CARB. CARB released a draft version of the LCFS in October 2008. The final regulation was approved by the Office of Administrative Law and filed with the Secretary of State on January 12, 2010; the LCFS became effective on the same day.

The 2017 update has identified LCFS as a regulatory measure to reduce GHG emission to meet the 2030 emissions target. In calculating statewide emissions and targets, the 2017 update has assumed the LCFS be extended to an 18% reduction in carbon intensity beyond 2020. On September 27, 2018, CARB approved a rulemaking package that amended the LCFS to relax the 2020 carbon intensity reduction from 10% to 7.5%, and to require a carbon intensity reduction of 20% by 2030.

4.2.11 Advanced Clean Car Regulations

In 2012, CARB approved the Advanced Clean Cars program, a new emissions control program for model years 2015 through 2025. The components of the advance clean car standards include the Low-Emission Vehicle regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero Emission Vehicle regulation, which requires manufacturers to produce an increasing number of pure ZEVs, with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years period. In March 2017, CARB voted unanimously to continue with the vehicle GHG emission standards and the ZEV programs for cars and light trucks sold in California through 2025.

4.2.12 Senate Bill 375

This bill requires CARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization for each region must then develop a “Sustainable Communities Strategy” (SCS) that integrates transportation, land use, and housing policies to plan how it will achieve the emissions target for its region. If the SCS is unable to achieve the regional GHG emissions reductions targets, then the Metropolitan Planning Organization is required to prepare an alternative planning strategy that shows how the GHG emissions reduction target can be achieved through alternative development patterns, infrastructure, and/or transportation measures.

As required under SB 375, CARB is required to update regional GHG emission targets every 8 years, with last update formally adopted March 2018. As part of the 2018 update, CARB has adopted a passenger vehicle–related GHG reduction target of 19% by 2035 for the SCAG region, which is more stringent than the previous reduction target of 13% for 2035.

4.2.13 Senate Bill 97

Senate Bill 97 (SB 97) was enacted in 2007. SB 97 required Governor’s Office of Planning and Research (OPR) to develop, and the Natural Resources Agency to adopt, amendments to the CEQA Guidelines addressing the analysis and mitigation of GHG emissions (OPR 2008, 2018). Those CEQA Guidelines amendments clarified several points, including the following:

- Lead agencies must analyze the GHG emissions of proposed projects and must reach a conclusion regarding the significance of those emissions.

- When a project's GHG emissions may be significant, lead agencies must consider a range of potential mitigation measures to reduce those emissions.
- Lead agencies must analyze potentially significant impacts associated with placing projects in hazardous locations, including locations potentially affected by climate change.
- Lead agencies may significantly streamline the analysis of GHGs on a project level by using a programmatic GHG emissions reduction plan meeting certain criteria.
- CEQA mandates analysis of a proposed project's potential energy use (including transportation-related energy), sources of energy supply and ways to reduce energy demand, including through the use of efficient transportation alternatives.

As part of the administrative rulemaking process, the California Natural Resources Agency developed a Final Statement of Reasons explaining the legal and factual bases, intent, and purpose of the CEQA Guidelines amendments. The amendments to the CEQA Guidelines implementing SB 97 became effective on March 18, 2010. SB 97 applies to any environmental impact report (EIR), negative declaration, mitigated negative declaration, or other document required by CEQA, which has not been finalized.

4.3 Regional

4.3.1 Sacramento Metro Air Quality Management District

The SMAQMD is the agency responsible for ensuring that the National and California AAQS are attained and maintained in the Sacramento County. SMAQMD works with other local air districts in the Sacramento region to maintain the region's portion of the (State implementation plan) SIP for ozone and $PM_{2.5}$. The SIP is a compilation of plans and regulations that govern how the region and State will comply with the CAA requirements to attain and maintain the NAAQS for ozone and particulate matter. SMAQMD has developed a set of guidelines for use by lead agencies when preparing environmental documents. The guidelines contain thresholds of significance for criteria pollutants and TACs, and also make recommendations for conducting air quality analyses. All projects are subject to adopted SMAQMD rules and regulations in effect at the time of construction. Specific rules relevant to the construction of future development under the project may include the following:

- Rule 201: General Permit Requirements. Any project that includes the use of equipment capable of releasing emissions into the atmosphere may be required to obtain permit(s) from SMAQMD before equipment operation. The applicant, developer, or operator of a project that includes an emergency generator, boiler, or heater should contact SMAQMD early to determine whether a permit is required, and to begin the permit application process. Portable construction equipment (e.g., generators, compressors, pile drivers, lighting equipment) with an internal combustion engine greater than 50 horsepower must have a SMAQMD permit or CARB portable equipment registration.

- Rule 202: New Source Review. The purpose of this rule is to provide for the issuance of authorities to construct and permits to operate at new and modified stationary air pollution sources and to provide mechanisms, including emission offsets, by which authorities to construct such sources may be granted without interfering with the attainment or maintenance of ambient air quality standards.

- Rule 207: Federal Operating Permit. The purpose this rule is to establish an operating permitting system consistent with the requirements of Title V of the US Code and pursuant to 40 FR Part 70.

Stationary sources subject to the requirements of this rule are also required to comply with any other applicable federal, State, or SMAQMD orders, rules, and regulations, including requirements pertaining to prevention of significant deterioration pursuant to Rule 203, requirements to obtain an authority to construct pursuant to Rule 201, or applicable requirements under SMAQMD's new source review rule in the SIP.

- Rule 402: Nuisance. A person shall not discharge from any source whatsoever such quantities of air contaminants or other materials that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public, or that endanger the comfort, repose, health, or safety of any such persons or the public, or that cause or have natural tendency to cause injury or damage to business or property.

- Rule 403: Fugitive Dust. The developer or contractor is required to control dust emissions from earthmoving activities or any other construction activity to prevent airborne dust from leaving the project site. Fugitive dust controls include the following:

    - Water all exposed surfaces two times daily.

    - Cover or maintain at least 2 feet of freeboard on haul trucks transporting soil, sand, or other loose material on the site.

    - Use wet power vacuum street sweepers to remove any visible track-out mud or dirt onto adjacent public roads at least once a day.

    - Limit vehicle speeds on unpaved roads to 15 miles per hour.

    - All roadways, driveways, sidewalks, and parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

    - Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes.

    - Maintain all construction equipment in proper working condition according to manufacturers' specifications.

- Rule 442: Architectural Coatings. The purpose of this rule is to limit the emissions of volatile organic compounds from the use of architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within Sacramento County.

- Rule 902: Asbestos. The developer or contractor is required to notify SMAQMD of any regulated renovation or demolition activity. Rule 902 contains specific requirements for surveying, notification, removal, and disposal of material containing asbestos.

SMAQMD also provides the CEQA Guide with basic construction emission control practices or BMPs. The following Basic Construction Emissions Control Practices are considered feasible for controlling fugitive dust from a construction site. The practices also serve as best management practices, allowing the use of the non-zero particulate matter significance thresholds. The BMPs are as follows:

- Control of fugitive dust is required by District Rule 403 and enforced by District staff.

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.

- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.

- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.

- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).

- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

The following practices describe exhaust emission control from diesel powered fleets working at a construction site. California regulations limit idling from both on-road and offroad diesel-powered equipment. The California Air Resources Board (CARB) enforces idling limitations and compliance with diesel fleet regulations.

- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.

- Provide current certificate(s) of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1].

Although not required by local or state regulation, many construction companies have equipment inspection and maintenance programs to ensure work and fuel efficiencies.

- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated

4.3.2 City of Sacramento Climate Action Plan

Sacramento's first community Climate Action Plan (CAP), adopted in 2012, was a stand-alone document that was intended to guide City efforts to reduce greenhouse gas emissions and adapt to climate change. In 2015 the CAP was incorporated into the 2035 General Plan. The City of Sacramento is currently updating the Sacramento Climate Action Plan, and integrating an Adaptation Chapter and a Climate Change Vulnerability Assessment, in tandem with the 2040 General Plan Update process. The full Draft Climate Action & Adaptation Plan (CAAP) was released on April 28, 2023 for an extended public review period that will run through August, 2023.

This CAAP provides a pathway for the City of Sacramento to reduce GHG emissions consistent with state goals. In particular, the CAAP Update was developed to exceed the requirements of Senate Bill (SB) 32, which calls for a reduction in statewide GHG emissions 40% below 1990 levels by 2030. The CAAP also demonstrates the City's plan for substantial progress towards consistency with the State of California's statewide policy goals for GHG emission reductions, as enacted by AB1279 and the

California Air Resource Board's 2022 Scoping Plan for Achieving Carbon Neutrality which sets a path to achieve carbon neutrality by 2045 with at least 85% reduction in GHG emissions from 1990 levels.

In addition, this CAAP will fulfill the requirements of the CEQA Guidelines § 15183.5(b) to be a "qualified" GHG reduction plan. This CAAP meets CEQA requirements for qualified GHG reduction plans and will provide the City of Sacramento and its developers a critical tool for streamlining development through 2030 (i.e., the horizon year associated with SB 32). The CAAP is also consistent with the City's General Plan Update, using the same population, housing, and VMT growth projections. By developing a qualified GHG reduction plan the City has provided new construction a viable pathway through CEQA and provides a pathway for development to meet the long-term goals of the City in a cost-effective manner.

The four top GHG reduction measures of the CAAP, however, are driven by a new over-arching strategy that leverages electricity procurement transitions by Sacramento Municipal Utility District (SMUD) (which currently offers 70 percent carbon-free electricity to the community and is anticipated to offer 100 percent carbon-free electricity by 2030). This new strategy aims to electrify transportation and the built environment to allow clean energy to replace fossil fuel-powered appliances and vehicles over the next 24 years. The County's strategies and actions are structured around four focus areas: buildings, transportation, waste, water and wastewater, and carbon sequestration. Together, Sacramento's CAAP measures have the potential to reduce GHG emissions well beyond the 2030 target.

4.3.3 City of Sacramento General Plan

The City of Sacramento 2035 General Plan was adopted in compliance with the requirements of California Government Code Section 65300 et seq in March 2015. The General Plan is the County's vision for future development. It identifies goals, policies, and objectives to govern the physical development of the County. State law requires each city and county to adopt a General Plan with a minimum of seven elements: Land Use, Circulation, Housing, Conservation, Open-Space, Noise, and Safety. The Draft 2040 General Plan was released on April 28, 2023 for an extended public review period that will run through August, 2023. The Draft 2040 General Plan contains several policies regarding air quality and climate change. The draft plan also contains the Climate Action & Adaptation Plan, as discussed above, which sets ambitious greenhouse gas emissions reduction targets and identifies key strategies to reach the City's goal of achieving carbon neutrality by 2045, and sets policy direction to respond to projected climate change impacts.

4.3.4 Metropolitan Transportation Plan/Sustainable Communities Strategy

The 2020 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) for the Sacramento region pro-actively links land use, air quality, and transportation needs. The 2020 MTP/SCS lays out a transportation investment and land use strategy to support Sacramento with access to jobs and economic opportunity, transportation options, and affordable housing that works for all residents. The plan also lays out a path for improving air quality, preserving open space and natural resources, and helping California achieve its goal to reduce greenhouse gas emissions that contribute to climate change. Sacramento Area Council of Governments (SACOG) is responsible for updating and maintaining the MTP/SCS regularly.

5 THRESHOLDS OF SIGNIFICANCE

5.1 Air Quality

Based upon the environmental checklist presented in Appendix G of the State CEQA Guidelines, the project would have a significant impact on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under applicable federal or state ambient air quality standards;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

A discussion of applicable thresholds of significance and significance determination follow.

The SMAQMD CEQA Guide was prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the county of Sacramento (SMAQMD 2023). The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and includes recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, and greenhouse gas emissions. SMAQMD's air quality thresholds of significance are tied to achieving or maintaining attainment designations with the NAAQS and CAAQS, which are scientifically substantiated, numerical concentrations of criteria air pollutants considered to be protective of human health. Implementing the project would have a significant impact related to air quality such that human health would be adversely affected if it would (SMAQMD 2023):

- cause construction-generated criteria air pollutant or precursor emissions to exceed the SMAQMD-recommended thresholds of 85 lb/day for NO_X, 80 lb/day or 14.6 tpy for PM_{10}, and 82 lb/day or 15 tpy for $PM_{2.5}$ after SMAQMD's Basic Construction Emission Control Practices have been implemented;
- result in a net increase in long-term operational criteria air pollutant or precursor emissions that exceed the SMAQMD-recommended thresholds of 65 lb/day for ROG and NO_X, 80 lb/day and 14.6 tpy for PM_{10}, and 82 lb/day or 15 tpy for $PM_{2.5}$;
- result in long-term operational local mobile-source CO emissions that would violate or contribute substantially to concentrations that exceed the 1-hour CAAQS of 20 parts per million (ppm) or the 8-hour CAAQS of 9 ppm; or
- result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Projects that do not exceed the thresholds above would not cumulatively contribute to health effects in the Air Basin. If projects exceed the thresholds above, emissions would cumulatively contribute to the nonattainment status and would contribute to elevating health effects associated with these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants.

However, for projects that exceed the thresholds above, it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the Air Basin would be affected by the health effects cited above.

The SMAQMD is the primary agencies responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in the Air Basin and has developed Final Friant Ranch Guidance to address the issue raised in *Sierra Club v. County of Fresno (Friant Ranch, L.P.) (2018) 6 Cal.5th 502, Case No. S21978* (Friant Ranch). The SMAQMD Final Friant Ranch Guidance is based on modeling that estimates the incremental health effects of a project's emissions of criteria air pollutants and ozone precursors (SMAQMD 2023). Based on the magnitude of the project emissions, the Minor Project Health Effects Tool contained in the guidance was used to evaluate the project's incremental health effects. The Minor Project Health Effects tool was used to project the estimated health effects for a source emitting ROG, NO_X, and $PM_{2.5}$ at rates that match the lowest (i.e., most stringent) thresholds of significance for air districts in the area using local health data based on location. The most stringent thresholds of significance applied in this tool include 82 lb/day of $PM_{2.5}$ (derived from SMAQMD), 82 lb/day for PM_{10} (derived from the Placer County Air Pollution Control District), and 82 lb/day for ROG and NO_X (derived from the El Dorado County Air Quality Management District).

The Minor Projects Health Effects Screening Tool estimates the mean incidence of health outcomes such as mortality, hospital admissions, emergency room visits and heart attacks (acute myocardial infarction) in the SVAB that may result from emissions from a new project that emits 82 lb/day of NO_X, ROG, or PM. Projects with emissions lower than these thresholds of significance would have lower estimated health effects. Based on the impact determinations summarized below, the Project's associated adverse health outcomes were not discussed in detail for construction or operational emissions. Construction and operation-related TAC emissions were assessed qualitatively.

Impacts related to odors were also assessed qualitatively, based on proposed construction activities, equipment types and duration of use, overall construction schedule, proposed operational activities, and distance to nearby sensitive receptors.

Congested intersections have the potential to create elevated concentrations of CO, referred to as CO hotspots. The significance criteria for CO hotspots are based on the California AAQS for CO, which are 9.0 ppm (8-hour average) and 20.0 ppm (1-hour average). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology, the SVAB is in attainment of the California and National AAQS, and CO concentrations in the SVAB have steadily declined. Because CO concentrations have improved, the SMAQMD does not require a CO hotspot analysis as the project would not increase traffic volumes at affected intersections to more than 100 vehicles per hour, well under volumes of concern (CARB 2014).

5.1.1 Toxic Air Contaminants

Chapter 5 of the SMAQMD's CEQA Guide discussed the TAC thresholds for local community risk and hazard impacts apply to both the siting of a new source and to the siting of a new receptor. SMAQMD recommends that CEQA documents analyze potential impacts resulting from exposure of sensitive receptors to high doses of TACs and associated health risk for only certain circumstances/situations.

SMAQMD has not established a quantitative threshold of significance for construction-related TAC emissions and recommends that lead agencies address this issue on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and its proximity to off-site receptors. Information regarding the project's construction details related to TACs has been provided as

part of this report. Furthermore, implementation of the SMAQMD's Basic Construction Emission Control Practices would result in the reduction of diesel PM exhaust emissions in addition to criteria pollutant emissions, particularly the measures to minimize engine idling time and maintain construction equipment in proper working condition and according to manufacturer's specifications. The Enhanced On-Site Exhaust Control Practices for off-road construction equipment, which requires NOx emissions be reduced by 10% will encourage the use of higher tier engines with lower particulate exhaust emissions. The SMAQMD basic and enhanced mitigation measures are discussed in detail in the CEQA Guide Chapter 3, Basic Construction Emission Control Practices (Best Management Practices).

Project-level emissions of TACs from individual sources that exceed any of the thresholds listed below are considered a potentially significant community health risk:

- result in an incremental increase in cancer risk (i.e., the risk of contracting cancer) greater than 10 in one million at any off-site receptor and/or a noncarcinogenic hazard index of 1.0 or greater;

5.2 Greenhouse Gases

Consistent with Appendix G of the State CEQA Guidelines, a project would have a significant GHG impact if it would:

- Generate GHG emissions, either directly or indirectly, that may have an adverse effect on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

State CEQA Guidelines Section 15064.4 recommends that lead agencies quantify GHG emissions projects and consider several other factors that may be used in the determination of significance of project-related GHG emissions, including: the extent to which the project may increase or reduce GHG emissions; whether the project exceeds an applicable significant threshold; and the extent to which the project complies with the regulations or requirements adopted to implement a reduction or mitigation of GHG.

Section 15064.4 does not establish a threshold of significance. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look at thresholds developed by other public agencies, or suggested by other experts, such as the CAPCOA, as long as any threshold chosen is supported by substantial evidence (see State CEQA Guidelines Section 15064.7(c)). The State CEQA Guidelines also clarify that the events of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see State CEQA Guidelines Section 15130(f)). It is noted that the State CEQA Guidelines were amended in response to SB 97. In particular, the State CEQA Guidelines were amended to specify that compliance with the GHG emissions reduction plan renders a cumulative impact less than significant.

Per State CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community

conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions" (14 CCR Section 15064(h)(3)). Put another way, State CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies, and/or other regulatory strategies to reduce GHG emissions.

Per State CEQA Guidelines Section 15064.4(b), "in determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions." When determining the significance of GHG impacts, lead agencies should consider the project's impact as compared to the existing environmental setting, whether the project exceeds a threshold of significance, and compliance with relevant GHG-related plans (see, for example, State CEQA Guidelines Section 15064.4(b)). Regarding the latter criterion, lead agencies should consider "the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, for example, State CEQA Guidelines Section 15183.5(b)). Per State CEQA Guidelines Section 15064.4(b)(3), such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions.

In February 2021, the SMAQMD released GHG guidance as part of their CEQA Guide (SMAQMD). Generally, the SMAQMD agrees that GHG emissions are best analyzed and mitigated at the program level; however, since not all jurisdictions in Sacramento County have conducted program level GHG analyses, such as a GHG reduction plan or climate action plan, SMAQMD offers guidance for addressing the GHG emissions associated with individual development projects. SMAQMD recognizes that although there is no known level of emissions that determines if a single project will substantially impact the environment, a threshold must be set to trigger review and to assess the need for mitigation. The project's estimated GHG emissions will be compared to the SMAQMD's recommended thresholds of significance:

- Construction phase of all project types -1,100 metric tons of CO_2e per year.
- Stationary source operational emissions – 10,000 metric tons of CO_2e per year.
- Land development project operational emissions are reviewed in the context of consistency with CARB's Climate Change Scoping Plan

If a project's emissions exceed the thresholds of significance for construction or stationary source emissions, then the project emissions may have a cumulatively considerable contribution to a significant cumulative environmental impact, answering Appendix G's first GHG-related question on whether the project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. For projects that exceed the SMAQMD's thresholds of significance, lead agencies shall implement all feasible mitigation to reduce GHG emissions. The second GHG-related question in Appendix G asks if the project will conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. In order to answer this question, project emissions should be evaluated with respect to consistency with the following plans and policies, if applicable, that have been adopted to reduce GHG emissions:

- A jurisdiction's qualified climate action plan or GHG reduction plan.
- The Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS).

As an additional significance criterion, consistency with the applicable plans and policies to reduce GHG emissions, including the emissions reduction policies, strategies, and measures discussed within CARB's Climate Change Scoping Plan, was additionally evaluated.

6 METHODOLOGY

This analysis focuses on the potential change in the air quality environment due to implementation of the project. Air pollution emissions would result from both construction and operation of the project. Specific methodologies used to evaluate these emissions are discussed below.

The analysis is based on project specifics and default values in the latest versions of CalEEMod. Accordingly, this analysis has been conducted with the most recent available tools prepared and accepted by the regulatory agencies.

6.1 Construction Emissions

The project's emissions will be evaluated based on significance thresholds and CEQA guidance established by SMAQMD, as discussed above. Daily emissions during construction are estimated by assuming a conservative construction schedule and applying the multiple source and fugitive dust emission factors derived from the SMAQMD-recommended CalEEMod version 2022.1.1.12. Details of the modeling assumptions and emission factors are provided in Appendix A. The calculations of the emissions generated during project construction activities reflect the types and quantities of construction equipment that would be used to complete the project.

6.1.1 Construction Assumptions

Construction emissions associated with the project, including emissions associated with the operation of off-road equipment, haul-truck trips, on-road worker vehicle trips, vehicle travel on paved and unpaved surfaces, and fugitive dust from material handling activities, were calculated using CalEEMod version 2022.1.1.12 (CAPCOA 2023). CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operation of a variety of land use projects. The model uses widely accepted federal and state models for emission estimates and default data from sources such as EPA AP-42 emission factors, CARB vehicle emission models, and studies from California agencies such as CEC. The model quantifies direct emissions from construction and operations, as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The model was developed in collaboration with the air districts in California. Default data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions.

Emissions modeling included emissions generated during the project have been grouped into seven phases in CalEEMod based on the types of equipment and workload: 1) demolition (including demolition of paved area, tree removal, clearing of existing fences/bleachers/dugouts, etc. assuming 1,500 tons of material hauled away); 2) site preparation (including clearing and grubbing and hauling away of any remaining material); 3) grading and erosion control; 4) building construction 1 (including site work, irrigation, landscaping); 5) building construction 2 (including plant establishment); 6) paving (paving of parking lot and courts); and 7) finishing (including finishing activities and architectural coatings parking lot and courts). The project is within a 362-acre park, however, the total acres involved for the Renfree

Field Renovations Project totals approximately 8.33 acres. Three CalEEMod land uses were utilized 'Recreational – City Park' for the 7.25 acres (which includes the fields, paths, and area west of Bridge Road), 'Parking – Parking lot' for the 77 parking spots, and 'Parking – Other Asphalt Surfaces' for the approximately 0.5 acres of paved courts. This analysis includes quantification of construction and operation off-road equipment, fugitive dust, and on-road mobile sources, as well as the operational emissions for Renfree Field.

Modeling input data were based on this anticipated construction schedule and phasing. Construction equipment and usage required for each phase were obtained using CalEEMod defaults for the land use types which make up the project site, information provided by the City, and default parameters contained in the model for the project site (Sacramento County) and land uses. The construction duration is assumed to be approximately 8-10 months, from March 2024 through to the end of December 2024. Project construction would consist of different activities undertaken in phases, through to the operation of the project. Typical construction equipment would be used during all phases of project construction and would be stored within the staging area, potentially including dozers, backhoes, graders, and excavators. Table 6 shows the project's anticipated construction schedule, presents an estimate of the maximum number of pieces of equipment for each construction phase, and conservatively assumes equipment would be operating 8 hours per day, 5 days per week for the construction phase duration. The construction emissions were mitigated in the CalEEMod model to comply with any SMAQMD BMPs (SMAQMD 2023).

Table 6. Construction Anticipated Schedule, Trips, and Equipment

Phase (Duration)	Equipment Used			Daily Vehicle Trips
	Type	Number	Hours/Day	
1. Demolition 3/1/2024–3/21/2024 (15 working days)	Rubber Tired Dozers	2	8	20 one-way worker trips 2 one-way vendor trips 20 one-way onsite haul truck trips 1 mile of onsite truck travel
	Concrete/Industrial Saws	1	8	
	Excavators	3	8	
2. Site Preparation 3/1/2024–3/21/2024 (15 working days)	Rubber Tired Dozers	3	8	20 one-way worker trips 2 one-way vendor trips 4 one-way onsite haul truck trips 1 mile of onsite truck travel
	Tractors/Loaders/Backhoes	4	8	
3. Grading 3/22/2024–4/11/2024 (15 working days)	Tractors/Loaders/Backhoes	3	8	20 one-way worker trips 2 one-way vendor trips 0 one-way onsite haul truck trips 1 mile of onsite truck travel
	Excavators	1	8	
	Graders	1	8	
	Rubber Tired Dozers	1	8	
4. Building Construction 1 4/12/2024–10/3/2024 (125 working days)	Cranes	1	7	20 one-way worker trips 2 one-way vendor trips 4 one-way onsite haul truck trips 1 mile of onsite truck travel
	Forklifts	3	8	
	Generator Sets	1	8	
	Tractors/Loaders/Backhoes	3	7	
	Welders	1	8	
5. Building Construction 2 10/4/2024–12/26/2024 (60 working days)	Tractors/Loaders/Backhoes	3	7	20 one-way worker trips 2 one-way vendor trips 2 one-way onsite haul truck trips 1 mile of onsite truck travel
6. Paving 5/1/2024–6/11/2024 (30 working days)	Pavers	2	8	20 one-way worker trips 2 one-way vendor trips 0 one-way onsite haul truck trips 1 miles of onsite truck travel
	Paving Equipment	2	8	
	Rollers	2	8	
7. Finalization 12/1/2024–12/31/2024 (22 working days)	Air Compressors	1	6	0 one-way worker trips 0 one-way vendor trips 0 one-way onsite haul truck trips 1 miles of onsite truck travel

Notes: For the parameters that are not provided in the table (e.g., equipment horsepower and load factor, on-road trip lengths), CalEEMod defaults were used.

6.2 Operational Emissions

Once construction is completed the project would be operational sports courts, ball fields and soccer field with associate parking area. Criteria pollutant and GHG emissions from the operation of the project were estimated using CalEEMod Version 2022.1.1.12. Year 2025 was assumed as the first full year of operations after completion of construction. The operational emissions were calculated based on

CalEEMod defaults associated with the project's land use types, removing any natural gas processes. Analysis of the project's likely impact on regional air quality during project operation takes into consideration three types of sources: 1) area, 2) energy, and 3) mobile.

Area Sources

CalEEMod was used to estimate operational emissions from area sources, including emissions from consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating, water heating, and stoves are not calculated as no buildings are proposed as part of the project. The project will not include any natural gas.

Consumer products are chemically formulated products used by household and institutional consumers, including detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. Other paint products, furniture coatings, or architectural coatings are not considered consumer products (CAPCOA 2023). For parking lot land uses, CalEEMod estimates VOC emissions associated with use of parking surface degreasers based on a square footage of parking surface area and pounds of VOC per square foot per day.

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings, such as in paints and primers using during building maintenance. CalEEMod calculates the VOC evaporative emissions from application of residential and nonresidential surface coatings based on the VOC emission factor, the building square footage, the assumed fraction of surface area, and the reapplication rate. The VOC emission factor is based on the CalEEMod default VOC content of the surface coatings. The model default reapplication rate of 10% of area per year is assumed. Architectural coating for the parking surface area was also estimated with CalEEMod defaults.

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chainsaws, and hedge trimmers. The emissions associated with landscape equipment use are estimated based on CalEEMod default values for emission factors (grams per square foot of nonresidential building space per day) and number of summer days (when landscape maintenance would generally be performed) and winter days. For Sacramento County, the average annual "summer" days are estimated to 250 days; and it is assumed that landscaping equipment would operate 250 days per year in CalEEMod. Emissions associated with potential landscape maintenance equipment were included and no emission reduction features related to electric landscape equipment were assumed, to conservatively capture potential project operational emission sources.

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with building and parking lot electricity, and for this project the electricity from the field lighting was also included. Electricity use would contribute indirectly to criteria air pollutant emissions; however, the emissions from electricity use are only quantified for GHGs in CalEEMod, since criteria pollutant emissions occur at the site of the power plant, which is typically off-site.

Mobile Sources

The project would generate criteria pollutant emissions from mobile sources (vehicular traffic) as a result of project operations. Emissions from mobile sources during operation of the project were estimated using CalEEMod default trip rates, trip lengths, fleet mix, and emissions factors for each vehicle.

6.3 Greenhouse Gas

This analysis quantifies the project's total annual GHG emissions from construction, taking into account any GHG emission reduction measures that would be incorporated into the project's design. This analysis evaluates the significance of the project's GHG emission by assessing the project's consistency with SMAQMD CEQA Guide (SMAQMD 2023).

6.4 Toxic Air Contaminants Impacts (Construction and Operations)

SMAQMD recommends that CEQA documents analyze potential impacts resulting from exposure of sensitive receptors to high doses of TACs and associated health risk for only certain circumstances/situations. The project does not produce high doses of any TACs during construction or operation. Potential TAC impacts were evaluated in this analysis by conducting a qualitative analysis consistent with the CARB Handbook (2005) and SMAQMD guidance. The TAC that is the focus of this analysis is diesel PM because it is known that diesel PM would be emitted during project construction and operation. Construction-related activities that would result in temporary, intermittent emissions of diesel PM would be from the exhaust of off-road equipment and on-road heavy-duty trucks. On-road diesel-powered haul trucks traveling to and from the construction area to deliver materials and equipment are less of a concern because they do not operate at any one location for extended periods of time such that they would expose a single receptor to excessive diesel PM emissions. The project is consistent with TAC-related rules and regulations and the CalEEMod modeling shows the low exhaust PM during construction and operation (Appendix A). Furthermore, implementation of the SMAQMD's BMPs would result in the reduction of diesel PM exhaust emissions in addition to criteria pollutant emissions, particularly the measures to minimize engine idling time and maintain construction equipment in proper working condition and according to manufacturer's specifications.

7 IMPACT ANALYSIS

Impact AQ-1 Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. A project is conforming with applicable adopted plans if it complies with the applicable SMAQMD rules and regulations and emission control strategies in the applicable air quality attainment plans. The project would comply with the applicable rules and regulations, including the use of BMPs.

Consistency with air quality plans is typically conducted based on a comparison of project-generated growth in employment, population, and vehicle miles traveled within the region, which is used for development of the emissions inventories contained in the air quality plans. While the project would contribute to energy supply, which is one factor of population growth, the project would not significantly increase employment, population, or growth within the region. The development of the project would renovate an existing field and would continue to fulfill this need in the community.

Furthermore, the thresholds of significance, adopted by the SMAQMD, determine compliance with the goals of attainment plans in the region. As such, emissions below the SMAQMD regional mass daily emissions thresholds would not conflict with or obstruct implementation of the applicable air quality plans. The project implementation would generate emissions of criteria air pollutants during construction and operation. The emissions from project construction (Table 7 and Table 8) and operation (Table 9) are below

the thresholds of significance; therefore, the project does not conflict with implementation of the SMAQMD applicable air quality plans (Sacramento SIPs, CAAP, the General Plan and SMAQMD CEQA Guide). The detailed assumptions and calculations, as well as CalEEMod outputs are provided in Appendix A of this report.

Impact AQ-2 Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less Than Significant Impact with Mitigation. The SMAQMD's thresholds of significance represent the allowable emissions a project can generate without generating a cumulatively considerable contribution to regional air quality impacts. Therefore, a project that would not exceed the SMAQMD thresholds of significance on a project level also would not be considered to result in a cumulatively considerable contribution to these regional air quality impacts. The region is non-attainment for federal and state 8-hour ozone standards, and federal 24-hour $PM_{2.5}$ standards. Impacts related to construction and operation of the proposed project are addressed separately below.

Construction

The project implementation would generate emissions of criteria air pollutants during construction. The estimated unmitigated emissions from construction of the project are summarized in Table 7. The detailed assumptions and calculations, as well as CalEEMod outputs are provided in Appendix A of this report.

Table 7. Unmitigated Construction Emissions Summary

	Unmitigated Construction Emissions Summary					
Construction Year	**ROG**	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**
Pollutant Emission (pounds per day)						
2024 Peak Daily Emission	6.48	64.90	57.76	28.04	13.4	0.10
SMAQMD Significance Thresholds	*N/A*	*85*	*N/A*	*80*	*82*	*N/A*
Threshold Exceeded?	*N/A*	*No*	*N/A*	*No*	*No*	*N/A*
Pollutant Emission (tons per year)						
2024 Max Annual	0.18	1.62	1.83	0.49	0.19	0.003
SMAQMD Significance Thresholds	*N/A*	*N/A*	*N/A*	*14.6*	*15*	*N/A*
Threshold Exceeded?	*N/A*	*N/A*	*N/A*	*No*	*No*	*N/A*

Source: Emissions were quantified using CalEEMod version 2022.1.1.12 (CAPCOA 2023). Max Winter reported for lb/day emissions.

NA = Not applicable, no threshold

Model results (summer, winter, and annual) and assumptions are provided in Appendix A.

As Table 7 shows, estimated unmitigated construction emissions for all pollutants are below SMAQMD significance thresholds. The combined construction emissions from all components of the proposed project are below the recommended SMAQMD thresholds of significance. Therefore, project construction would have a less-than-significant impact. However, BMPs have been included to further reduce localized impacts. The estimated mitigated emissions from construction of the project are summarized in Table 8.

Table 8. Mitigated Construction Emissions Summary

	Mitigated Construction Emissions Summary					
Construction Year	**ROG**	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**
Pollutant Emission (pounds per day)						
2024 Peak Daily Emission	6.48	64.90	57.76	14.09	7.00	0.10
SMAQMD Significance Thresholds	*N/A*	*85*	*N/A*	*80*	*82*	*N/A*
Threshold Exceeded?	*N/A*	*No*	*N/A*	*No*	*No*	*N/A*
Pollutant Emission (tons per year)						
2024 Max Annual	0.18	1.62	1.83	0.29	0.12	0.003
SMAQMD Significance Thresholds	*N/A*	*N/A*	*N/A*	*14.6*	*15*	*N/A*
Threshold Exceeded?	*N/A*	*N/A*	*N/A*	*No*	*No*	*N/A*

Source: Emissions were quantified using CalEEMod version 2022.1.1.12 (CAPCOA 2023). Max Winter reported for lb/day emissions.

NA = Not applicable, no threshold

Model results (summer, winter, and annual) and assumptions are provided in Appendix A.

As presented above, the project would not violate any air quality significance thresholds or contribute substantially to an existing or projected air quality violation. The impact is less than significant, and no mitigation is required. However, for all proposed projects, the SMAQMD recommends the implementation of BMPs, whether or not construction-related emissions exceed applicable thresholds of significance. As such, Mitigation Measures AQ-1 and AQ-2 have been added to comply with SMAQMD BMPs.

After implementation of these recommended measures, the project would have a less than- significant impact with respect to community risk caused by construction activities.

Operations

Project operations would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources, including vehicle trips; area sources, including the use of consumer products, architectural coatings for repainting, and landscape maintenance equipment, water, waste, and energy sources. The estimated emissions from operation of the project are summarized in Table 9. Complete details of the emissions calculations are provided in Appendix A.

Table 9. Unmitigated Operational Emissions Summary

	Unmitigated Operational Emissions Summary					
Operation Year 2025	**ROG**	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**
Pollutant Emission (pounds per day)						
Mobile	0.16	0.16	1.57	0.28	0.07	0.005
Area	0.01	0	0	0	0	0
Energy	0	0	0	0	0	0
Total	**0.16**	**0.16**	**1.57**	**0.28**	**0.07**	**0.005**
SMAQMD Significance Thresholds	*N/A*	*65*	*N/A*	*80*	*82*	*N/A*

Threshold Exceeded?	*N/A*	*No*	*N/A*	*No*	*No*	*N/A*
Pollutant Emission (tons per year)						
Mobile	0.02	0.02	0.14	0.03	0.01	0.0003
Area	0.002	0	0	0	0	0
Energy	0	0	0	0	0	0
Total	**0.02**	**0.02**	**0.14**	**0.03**	**0.01**	**0.0003**
SMAQMD Significance Thresholds	*N/A*	*N/A*	*N/A*	*14.6*	*15*	*N/A*
Threshold Exceeded?	*N/A*	*N/A*	*N/A*	*No*	*No*	*N/A*

Source: Emissions were quantified using CalEEMod version 2022.1.1.12 (CAPCOA 2023). Max Summer reported for lb/day emissions

NA = Not applicable, no threshold

Model results (summer, winter, and annual) and assumptions are provided in Appendix A.

As Table 9 shows, estimated unmitigated operational emissions for all pollutants are below SMAQMD significance thresholds, however applicable SMAQMD BMPs would be applied. Also, project operations would not affect traffic volumes at any affected intersection. Therefore, the proposed project would not exceed the CO screening criteria. Therefore, based on the above criteria, the proposed project would have a less-than-significant impact related to CO hotspots.

The combined construction emissions and combined operational emissions from all components of the proposed project are below the recommended SMAQMD thresholds of significance. Therefore, the project would not be anticipated to exceed any significance threshold and would have a less than significant contribution to cumulative impacts.

Impact AQ-3 Would the project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact with Mitigation. While criteria pollutants (such as particulate matter (PM_{10} and $PM_{2.5}$) are a concern at the regional level, community risk impacts from TACs exposure to nearby sensitive receptors are also a localized concern. While the discussion under Impact AQ-3 above addressed PM at the regional level, this impact addresses PM at the localized level. Impacts related to increased community risk can occur either by introducing new sensitive receptors, such as residences, in proximity to existing sources of TACs or by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity.

The TAC that is the focus of this analysis is diesel PM because it is known that diesel PM would be emitted during project construction and operation. Although other TACs exist (e.g., benzene, 1,3-butadiene, hexavalent chromium, formaldehyde, methylene chloride), they are primarily associated with industrial operations and the project would not include any industrial sources of other TACs.

Construction-related activities that would result in temporary, intermittent emissions of diesel PM would be from the exhaust of off-road equipment and on-road heavy-duty trucks. On-road diesel-powered haul trucks traveling to and from the construction area to deliver materials and equipment are less of a concern because they do not operate at any one location for extended periods of time such that they would expose a single receptor to excessive diesel PM emissions.

Based on the construction-related emissions modeling conducted (see Appendix A), maximum daily emissions of exhaust PM_{10} (used as a surrogate for diesel PM) would be less than 3 pounds during peak construction. A portion of these emissions would be related to haul trucks traveling and to and from the

Project site. Less than 3 pounds per day is below the SMAQMD-recommended threshold of 80 lb/day with the application of BMPs.

In addition, studies show that diesel PM is highly dispersive and that concentrations of diesel PM decline with distance from the source (e.g., 500 feet from a freeway, the concentration of diesel PM decreases by 70 percent) (Roorda-Knape et al. 1999; Zhu et al. 2002, cited in CARB 2005:9). Additionally, the closest receptors to the Project site are located approximately 230 feet north-northwest of the project site along Park Boulevard, or the Sunset Gardens apartment complex, which is approximately 300 feet southeast of the project site across Auburn Boulevard. Construction would not be limited only to the southern or northern portion of the project site but would rather occur throughout the project site in phases.

Construction-related TAC emissions would not expose sensitive receptors to an incremental increase in cancer risk greater than 10 in 1 million or a hazard index greater than 1.0 for the following reasons. The low exposure level reflects the 1) relatively low mass of diesel PM emissions that would be generated by construction activity on the Project site (i.e., 3 lb/day of exhaust PM_{10}), 2) the relatively short duration of diesel PM-emitting construction activity at the Project site (8-10 months), and 3) the highly dispersive properties of diesel PM.

Operation-related TAC emissions would be negligible, as a majority of potential visitors to the project would drive gasoline powered vehicles. Also, any on-road diesel-powered haul trucks traveling to and from the construction area to deliver materials and equipment are less of a concern because they do not operate at any one location for extended periods of time such that they would expose a single receptor to excessive diesel PM emissions. No other TAC emission sources will occur during operations.

Therefore, construction and operation-generated emissions of TACs would be less than significant.

Impact AQ-4 Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. The project would not be a source of any odors during operations. During construction, a limited number of diesel engines would be operated on the project site for limited durations. Diesel exhaust and volatile organic compounds (VOCs) from these diesel engines would be emitted during construction of the proposed project, which are objectionable to some; however, the short duration of construction activities is expected to last approximately 8-10 months, emissions would disperse rapidly from the project site, and diesel exhaust odors would be consistent with existing vehicle odors in the area. Considering this information, construction and operation of the proposed project would not create other emissions or odors adversely affecting a substantial number of people; impacts would be less than significant.

Impact GHG-1 Would the project generate GHG emissions, either directly or indirectly, that may have an adverse effect on the environment?

Less Than Significant Impact. Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor trucks, and worker vehicles. The SMAQMD CEQA Guide provide a construction GHG significance threshold. Project construction emissions were calculated and compared to the SMAQMD significance threshold. Construction emissions were also amortized over a 30-year project lifetime. CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described. Construction of the project is anticipated to last approximately eight to ten months. On-site sources of GHG emissions

include off-road equipment and off-site sources including haul trucks, vendor trucks and worker vehicles. Table 10 presents construction emissions for the project from on-site and off-site emission sources.

Table 10. Estimated Annual Construction Greenhouse Gas Emissions

Construction Years	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
2024	320.3	0.015	0.01	323.6
		Amortized construction emissions		***10.8***
SMAQMD GHG Threshold	N/A	N/A	N/A	1,100

Source: Appendix A.

As shown in Table 10, the estimated total GHG emissions during construction would be approximately 323.6 $MTCO_2e$ over the construction period, below the SMAQMD threshold. Estimated project-generated construction emissions amortized over 30 years would be approximately 10.8 $MTCO_2e$ per year. As with project-generated construction criteria air pollutant emissions, GHG emissions generated during construction of the project would only occur when construction is active, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions.

Operation of the project would generate GHG emissions through motor vehicle trips to and from the project site, landscape maintenance equipment operation, energy use, solid waste disposal, and generation of electricity associated with water supply, treatment, and distribution and wastewater treatment. CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions described in Section 6.2.

The estimated operational project-generated GHG emissions from area sources, energy usage, motor vehicles, off-road and stationary sources, solid waste generation, and water usage and wastewater generation are shown in Table 11.

Table 11. Estimated Annual Operational Greenhouse Gas Emissions

Construction Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Area	0	0	0	0
Energy	48.6	0.002	0.0002	48.7
Mobile	31.3	0.001	0.001	31.8
Water	1.5	0.01	0	1.5
Waste	0.05	0.005	0	0.2
Refrigeration	0	0	0	0
Total	81.4	0.01	0.002	82.2
		Amortized construction emissions		10.8
	Total operational + amortized construction GHGs			***93.0***

Source: Appendix A.
Note: These emissions reflect operational year 2025.

As shown in Table 11, estimated annual project-generated GHG emissions would be approximately 81.5 MT CO_2e per year as a result of project operations only. After summing the amortized project construction emissions, total GHGs generated by the project would be approximately 92.3 MT CO_2e per year. In summary, Impact GHG-1 would be less than significant.

Impact GHG-2 Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Less Than Significant Impact. The City of Sacramento draft Climate Action & Adaptation Plan (CAAP), released on April 28, 2023, provides a pathway for the City of Sacramento to reduce GHG emissions consistent with state goals. In particular, the CAAP Update was developed to exceed the requirements of Senate Bill (SB) 32, which calls for a reduction in statewide GHG emissions 40% below 1990 levels by 2030. The CAAP also demonstrates the City's plan for substantial progress towards consistency with the State of California's statewide policy goals for GHG emission reductions, as enacted by AB1279 and the California Air Resource Board's 2022 Scoping Plan for Achieving Carbon Neutrality which sets a path to achieve carbon neutrality by 2045 with at least 85% reduction in GHG emissions from 1990 levels.

In addition, this CAAP will fulfill the requirements of the CEQA Guidelines § 15183.5(b) to be a "qualified" GHG reduction plan. The CAAP is also consistent with the City's General Plan Update, using the same population, housing, and VMT growth projections. The Draft 2040 General Plan, also released April 2023, contains several policies regarding air quality and climate change. The City of Sacramento 2035 General Plan was adopted in compliance with the requirements of California Government Code Section 65300 et seq in March 2015. The General Plan is the County's vision for future development. It identifies goals, policies, and objectives to govern the physical development of the County. State law requires each city and county to adopt a General Plan with a minimum of seven elements: Land Use, Circulation, Housing, Conservation, Open-Space, Noise, and Safety. The 2020 MTP/SCS lays out a transportation investment and land use strategy to support Sacramento with access to jobs and economic opportunity, transportation options, and affordable housing that works for all residents. The plan also lays out a path for improving air quality, preserving open space and natural resources, and helping California achieve its goal to reduce greenhouse gas emissions that contribute to climate change.

The project is a small renovation project that would not conflict with the policies, regulations, or guidelines in the General Plan, CAAP, or any other applicable plans and/or regulations adopted for the purposes of reducing GHG emissions. Furthermore, GHG emissions from the project, as shown Appendix A, would not generate substantial GHG emissions during construction or operation. Therefore, impacts would be less than significant.

7.1 Cumulative Impacts

7.1.1 Air Quality

The cumulative setting for air quality includes the Air Basin, which is designated as a nonattainment area for federal and state standards of 8-hour ozone, and federal standards of $PM_{2.5}$; and unclassified or attainment for all other pollutants. Cumulative growth in population and vehicle use could inhibit efforts to improve regional air quality and attain the ambient air quality standards. The SMAQMD CEQA Guide does not include separate significance thresholds for cumulative construction and operational emissions. As described in threshold discussion, above, the project would also be consistent with the appropriate SMAQMD BMP measures, which are provided to reduce air quality emissions for the Sacramento region. Additionally, the threshold discussion, above, addresses cumulative impacts and demonstrates that the project would not exceed the applicable SMAQMD significance thresholds for construction or operations. The SMAQMD CEQA Guide notes that the nature of air emissions is largely a cumulative impact. As a

result, no single project is sufficient in size by itself to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. Consistency with the CAAP, General Plan and SMAQMD CEQA Guide information would ensure that the project would not cumulatively contribute to air quality impacts in the Basin; therefore, impacts would be less than significant.

7.1.2 Greenhouse Gas Emissions

The analysis of a project's GHG emissions is inherently a cumulative impacts analysis because climate change is a global problem and the emissions from any single project alone would be negligible. Accordingly, the analysis above considers the potential for the project to contribute to the cumulative impact of a global climate change. Table 10 and Table 11 show the estimated annual project-generated GHG emissions as a result of project construction and operation. Given that the project would generate construction and operation GHG emissions that are below SMAQMD thresholds, that would not conflict with applicable reduction plans and policies and given that GHG emission impacts are cumulative in nature, the project's incremental contribution to cumulatively significant GHG emissions would be less than significant.

7.2 Mitigation Measures

AQ-1: Implement SMAQMD Basic and Enhanced Construction Emission Control Practices to Reduce Fugitive Dust. The implementing agency will require, as a standard or specification of their contract, the construction contractor(s) to implement basic and enhanced control measures to reduce construction-related fugitive dust. Although the following measures are outlined in the SMAQMD's CEQA guidelines, they are required for the entirety of the construction area. The implementing agency will ensure through contract provisions and specifications that the contractor adheres to the mitigation measures before and during construction and documents compliance with the adopted mitigation measures.

- Water all exposed surfaces two times daily. Exposed surfaces include (but are not limited to) soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least 2 feet of freeboard space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour.
- All roadway, driveway, sidewalk, and parking lot paving should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

AQ- 2: In accordance with the SMAQMD's CEQA Guidance, all Projects undergoing environmental review should implement the Tier 1 BMPs – even if they do not exceed the operational screening table in Chapter 4 of the CEQA guide.

- BMP 1 – Projects shall be designed and constructed without natural gas infrastructure. For the area of the building with cooking equipment, the building official shall grant the

exemption only for fuel gas piping, fixtures, or infrastructure necessary for cooking equipment within the designated food service area.

If Project greenhouse gas emissions are over the 1,100 metric tons CO_2e/year after the Project applied Tier 1 BMPs, Tier 2 BMPs should be implemented.

- BMP 2 – Projects shall meet the current CalGreen Tier 2 standards, except all electric vehicle capable spaces shall instead be electric vehicle nearby.

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APPENDIX A

2023 CalEEMod Results

Air Pollutant & GHG Emission Calculations

Renfree Field Renovation Project v2 Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

2.6. Operations Emissions by Sector, Mitigated

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

3.2. Demolition (2024) - Mitigated

3.3. Site Preparation (2024) - Unmitigated

3.4. Site Preparation (2024) - Mitigated

3.5. Grading (2024) - Unmitigated

3.6. Grading (2024) - Mitigated

3.7. Building Construction (2024) - Unmitigated

3.8. Building Construction (2024) - Mitigated

3.9. Building Construction (2024) - Unmitigated

3.10. Building Construction (2024) - Mitigated

3.11. Paving (2024) - Unmitigated

3.12. Paving (2024) - Mitigated

3.13. Architectural Coating (2024) - Unmitigated

3.14. Architectural Coating (2024) - Mitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.1.2. Mitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.2. Electricity Emissions By Land Use - Mitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.2.4. Natural Gas Emissions By Land Use - Mitigated

4.3. Area Emissions by Source

4.3.2. Unmitigated

4.3.1. Mitigated

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

4.4.1. Mitigated

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

4.5.1. Mitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.6.2. Mitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.7.2. Mitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.8.2. Mitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.9.2. Mitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Renfree Field Renovation Project v2
Construction Start Date	3/1/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.50
Precipitation (days)	39.2
Location	38.64059964183758, -121.3770132403099
County	Sacramento
City	Sacramento
Air District	Sacramento Metropolitan AQMD
Air Basin	Sacramento Valley
TAZ	662
EDFZ	13
Electric Utility	Sacramento Municipal Utility District
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.14

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

City Park	7.25	Acre	7.25	0.00	0.00	309,786	—	Field, new path, area near courts and area west of bridge
Parking Lot	77.0	Space	0.75	0.00	5,000	0.00	—	parking lot with landscaping
Other Asphalt Surfaces	0.50	Acre	0.50	0.00	0.00	0.00	—	basket ball and pickeball courts

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-B	Water Active Demolition Sites
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.69	2.35	20.0	25.7	0.04	0.89	8.58	9.42	0.82	3.60	4.37	—	4,722	4,722	0.21	0.11	2.53	4,763
Mit.	2.69	2.35	20.0	25.7	0.04	0.89	3.69	4.52	0.82	1.45	2.23	—	4,722	4,722	0.21	0.11	2.53	4,763
% Reduced	—	—	—	—	—	—	57%	52%	—	60%	49%	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.87	6.48	64.9	57.8	0.10	2.69	25.3	28.0	2.48	10.9	13.4	—	11,001	11,001	0.54	0.39	0.15	11,132
Mit.	7.87	6.48	64.9	57.8	0.10	2.69	11.4	14.1	2.48	4.51	6.99	—	11,001	11,001	0.54	0.39	0.15	11,132
% Reduced	—	—	—	—	—	—	55%	50%	—	59%	48%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.14	1.01	8.85	10.0	0.02	0.38	2.31	2.68	0.35	0.71	1.05	—	1,935	1,935	0.09	0.06	0.48	1,954
Mit.	1.14	1.01	8.85	10.0	0.02	0.38	1.19	1.57	0.35	0.32	0.67	—	1,935	1,935	0.09	0.06	0.48	1,954
% Reduced	—	—	—	—	—	—	48%	42%	—	54%	37%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.21	0.18	1.62	1.83	< 0.005	0.07	0.42	0.49	0.06	0.13	0.19	—	320	320	0.01	0.01	0.08	324
Mit.	0.21	0.18	1.62	1.83	< 0.005	0.07	0.22	0.29	0.06	0.06	0.12	—	320	320	0.01	0.01	0.08	324
% Reduced	—	—	—	—	—	—	48%	42%	—	54%	37%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.69	2.35	20.0	25.7	0.04	0.89	8.58	9.42	0.82	3.60	4.37	—	4,722	4,722	0.21	0.11	2.53	4,763
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	7.87	6.48	64.9	57.8	0.10	2.69	25.3	28.0	2.48	10.9	13.4	—	11,001	11,001	0.54	0.39	0.15	11,132

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.14	1.01	8.85	10.0	0.02	0.38	2.31	2.68	0.35	0.71	1.05	—	1,935	1,935	0.09	0.06	0.48	1,954
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.21	0.18	1.62	1.83	< 0.005	0.07	0.42	0.49	0.06	0.13	0.19	—	320	320	0.01	0.01	0.08	324

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.69	2.35	20.0	25.7	0.04	0.89	3.69	4.52	0.82	1.45	2.23	—	4,722	4,722	0.21	0.11	2.53	4,763
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	7.87	6.48	64.9	57.8	0.10	2.69	11.4	14.1	2.48	4.51	6.99	—	11,001	11,001	0.54	0.39	0.15	11,132
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.14	1.01	8.85	10.0	0.02	0.38	1.19	1.57	0.35	0.32	0.67	—	1,935	1,935	0.09	0.06	0.48	1,954
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.21	0.18	1.62	1.83	< 0.005	0.07	0.22	0.29	0.06	0.06	0.12	—	320	320	0.01	0.01	0.08	324

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.17	0.17	0.16	1.57	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	0.34	648	649	0.06	0.02	1.30	656

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.16	0.15	0.19	1.30	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	0.34	618	618	0.06	0.02	0.03	625
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.09	0.09	0.10	0.76	< 0.005	< 0.005	0.16	0.17	< 0.005	0.04	0.04	0.34	491	492	0.05	0.01	0.33	496
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.02	0.02	0.14	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	0.06	81.4	81.4	0.01	< 0.005	0.05	82.2

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.17	0.16	0.16	1.57	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	—	346	346	0.01	0.01	1.30	352
Area	0.00	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	293	293	0.01	< 0.005	—	294
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	8.87	8.87	< 0.005	< 0.005	—	8.89
Waste	—	—	—	—	—	—	—	—	—	—	—	0.34	0.00	0.34	0.03	0.00	—	1.18
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.17	0.17	0.16	1.57	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	0.34	648	649	0.06	0.02	1.30	656
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.16	0.14	0.19	1.30	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	—	316	316	0.02	0.02	0.03	321
Area	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	293	293	0.01	< 0.005	—	294
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	8.87	8.87	< 0.005	< 0.005	—	8.89
Waste	—	—	—	—	—	—	—	—	—	—	—	0.34	0.00	0.34	0.03	0.00	—	1.18
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.16	0.15	0.19	1.30	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	0.34	618	618	0.06	0.02	0.03	625
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.09	0.08	0.10	0.76	< 0.005	< 0.005	0.16	0.17	< 0.005	0.04	0.04	—	189	189	0.01	0.01	0.33	192
Area	0.00	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	293	293	0.01	< 0.005	—	294
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	8.87	8.87	< 0.005	< 0.005	—	8.89
Waste	—	—	—	—	—	—	—	—	—	—	—	0.34	0.00	0.34	0.03	0.00	—	1.18
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.09	0.09	0.10	0.76	< 0.005	< 0.005	0.16	0.17	< 0.005	0.04	0.04	0.34	491	492	0.05	0.01	0.33	496
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.02	0.02	0.14	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	31.3	31.3	< 0.005	< 0.005	0.05	31.8
Area	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	48.6	48.6	< 0.005	< 0.005	—	48.7
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	1.47	1.47	< 0.005	< 0.005	—	1.47
Waste	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.19
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.02	0.02	0.02	0.14	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	0.06	81.4	81.4	0.01	< 0.005	0.05	82.2

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.17	0.16	0.16	1.57	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	—	346	346	0.01	0.01	1.30	352
Area	0.00	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	293	293	0.01	< 0.005	—	294
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	8.87	8.87	< 0.005	< 0.005	—	8.89
Waste	—	—	—	—	—	—	—	—	—	—	—	0.34	0.00	0.34	0.03	0.00	—	1.18
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.17	0.17	0.16	1.57	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	0.34	648	649	0.06	0.02	1.30	656
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.16	0.14	0.19	1.30	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	—	316	316	0.02	0.02	0.03	321
Area	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	293	293	0.01	< 0.005	—	294
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	8.87	8.87	< 0.005	< 0.005	—	8.89
Waste	—	—	—	—	—	—	—	—	—	—	—	0.34	0.00	0.34	0.03	0.00	—	1.18
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.16	0.15	0.19	1.30	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	0.34	618	618	0.06	0.02	0.03	625
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.09	0.08	0.10	0.76	< 0.005	< 0.005	0.16	0.17	< 0.005	0.04	0.04	—	189	189	0.01	0.01	0.33	192
Area	0.00	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	293	293	0.01	< 0.005	—	294
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	8.87	8.87	< 0.005	< 0.005	—	8.89
Waste	—	—	—	—	—	—	—	—	—	—	—	0.34	0.00	0.34	0.03	0.00	—	1.18
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.09	0.09	0.10	0.76	< 0.005	< 0.005	0.16	0.17	< 0.005	0.04	0.04	0.34	491	492	0.05	0.01	0.33	496

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.02	0.02	0.14	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	31.3	31.3	< 0.005	< 0.005	0.05	31.8
Area	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	48.6	48.6	< 0.005	< 0.005	—	48.7
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	1.47	1.47	< 0.005	< 0.005	—	1.47
Waste	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.19
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	0.02	0.02	0.02	0.14	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	0.06	81.4	81.4	0.01	< 0.005	0.05	82.2

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.12	2.62	24.9	21.7	0.03	1.06	—	1.06	0.98	—	0.98	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	2.23	2.23	—	0.34	0.34	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.31	1.31	< 0.005	0.13	0.13	—	5.38	5.38	< 0.005	< 0.005	< 0.005	5.66
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.13	0.11	1.02	0.89	< 0.005	0.04	—	0.04	0.04	—	0.04	—	141	141	0.01	< 0.005	—	141
Demolition	—	—	—	—	—	—	0.09	0.09	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.3	23.3	< 0.005	< 0.005	—	23.4
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	0.86	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	181
Vendor	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.0	48.0	< 0.005	0.01	< 0.005	50.2
Hauling	0.19	0.05	3.04	1.06	0.02	0.03	0.38	0.41	0.03	0.10	0.13	—	1,513	1,513	0.14	0.24	0.08	1,589
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.54	7.54	< 0.005	< 0.005	0.01	7.65
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.97	1.97	< 0.005	< 0.005	< 0.005	2.07
Hauling	0.01	< 0.005	0.12	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	62.2	62.2	0.01	0.01	0.06	65.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.25	1.25	< 0.005	< 0.005	< 0.005	1.27
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.34
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.3	10.3	< 0.005	< 0.005	0.01	10.8

3.2. Demolition (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.12	2.62	24.9	21.7	0.03	1.06	—	1.06	0.98	—	0.98	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	1.43	1.43	—	0.22	0.22	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.74	0.74	< 0.005	0.07	0.07	—	5.38	5.38	< 0.005	< 0.005	< 0.005	5.66
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.11	1.02	0.89	< 0.005	0.04	—	0.04	0.04	—	0.04	—	141	141	0.01	< 0.005	—	141
Demolition	—	—	—	—	—	—	0.06	0.06	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	23.3	23.3	< 0.005	< 0.005	—	23.4
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	0.86	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	181
Vendor	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.0	48.0	< 0.005	0.01	< 0.005	50.2
Hauling	0.19	0.05	3.04	1.06	0.02	0.03	0.38	0.41	0.03	0.10	0.13	—	1,513	1,513	0.14	0.24	0.08	1,589
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.54	7.54	< 0.005	< 0.005	0.01	7.65
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.97	1.97	< 0.005	< 0.005	< 0.005	2.07
Hauling	0.01	< 0.005	0.12	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	62.2	62.2	0.01	0.01	0.06	65.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.25	1.25	< 0.005	< 0.005	< 0.005	1.27
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.34
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.3	10.3	< 0.005	< 0.005	0.01	10.8

3.3. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.31	1.31	< 0.005	0.13	0.13	—	5.38	5.38	< 0.005	< 0.005	< 0.005	5.66
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.48	1.35	< 0.005	0.07	—	0.07	0.06	—	0.06	—	218	218	0.01	< 0.005	—	218
Dust From Material Movement	—	—	—	—	—	—	0.81	0.81	—	0.42	0.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.27	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	36.0	36.0	< 0.005	< 0.005	—	36.2
Dust From Material Movement	—	—	—	—	—	—	0.15	0.15	—	0.08	0.08	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	0.86	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	181
Vendor	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.0	48.0	< 0.005	0.01	< 0.005	50.2
Hauling	0.04	0.01	0.61	0.21	< 0.005	0.01	0.08	0.08	0.01	0.02	0.03	—	303	303	0.03	0.05	0.02	318

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.54	7.54	< 0.005	< 0.005	0.01	7.65
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.97	1.97	< 0.005	< 0.005	< 0.005	2.07
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.4	12.4	< 0.005	< 0.005	0.01	13.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.25	1.25	< 0.005	< 0.005	< 0.005	1.27
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.34
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.06	2.06	< 0.005	< 0.005	< 0.005	2.17

3.4. Site Preparation (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.74	0.74	< 0.005	0.07	0.07	—	5.38	5.38	< 0.005	< 0.005	< 0.005	5.66
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.48	1.35	< 0.005	0.07	—	0.07	0.06	—	0.06	—	218	218	0.01	< 0.005	—	218

Dust From Material Movement	—	—	—	—	—	—	0.32	0.32	—	0.16	0.16	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.27	0.25	< 0.005	0.01	—	0.01	0.01	—	0.01	—	36.0	36.0	< 0.005	< 0.005	—	36.2
Dust From Material Movement	—	—	—	—	—	—	0.06	0.06	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	0.86	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	181
Vendor	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.0	48.0	< 0.005	0.01	< 0.005	50.2
Hauling	0.04	0.01	0.61	0.21	< 0.005	0.01	0.08	0.08	0.01	0.02	0.03	—	303	303	0.03	0.05	0.02	318
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.54	7.54	< 0.005	< 0.005	0.01	7.65
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.97	1.97	< 0.005	< 0.005	< 0.005	2.07
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.4	12.4	< 0.005	< 0.005	0.01	13.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.25	1.25	< 0.005	< 0.005	< 0.005	1.27
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.34

Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.06	2.06	< 0.005	< 0.005	< 0.005	2.17

3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.26	1.90	18.2	18.8	0.03	0.84	—	0.84	0.77	—	0.77	—	2,958	2,958	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.31	1.31	< 0.005	0.13	0.13	—	5.40	5.40	< 0.005	< 0.005	0.01	5.69
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.26	1.90	18.2	18.8	0.03	0.84	—	0.84	0.77	—	0.77	—	2,958	2,958	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.31	1.31	< 0.005	0.13	0.13	—	5.38	5.38	< 0.005	< 0.005	< 0.005	5.66
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.75	0.77	< 0.005	0.03	—	0.03	0.03	—	0.03	—	122	122	< 0.005	< 0.005	—	122

Dust From Material Movement	—	—	—	—	—	—	0.29	0.29	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	20.1	20.1	< 0.005	< 0.005	—	20.2
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.15	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	201	201	0.01	0.01	0.82	205
Vendor	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.1	48.1	< 0.005	0.01	0.12	50.3
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	0.86	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	181
Vendor	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.0	48.0	< 0.005	0.01	< 0.005	50.2
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.54	7.54	< 0.005	< 0.005	0.01	7.65
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.97	1.97	< 0.005	< 0.005	< 0.005	2.07
Hauling	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	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.25	1.25	< 0.005	< 0.005	< 0.005	1.27
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.34
Hauling	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	0.00

3.6. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.26	1.90	18.2	18.8	0.03	0.84	—	0.84	0.77	—	0.77	—	2,958	2,958	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.74	0.74	< 0.005	0.07	0.07	—	5.40	5.40	< 0.005	< 0.005	0.01	5.69
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.26	1.90	18.2	18.8	0.03	0.84	—	0.84	0.77	—	0.77	—	2,958	2,958	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.74	0.74	< 0.005	0.07	0.07	—	5.38	5.38	< 0.005	< 0.005	< 0.005	5.66
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.09	0.08	0.75	0.77	< 0.005	0.03	—	0.03	0.03	—	0.03	—	122	122	< 0.005	< 0.005	—	122
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	20.1	20.1	< 0.005	< 0.005	—	20.2
Dust From Material Movement	—	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.15	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	201	201	0.01	0.01	0.82	205
Vendor	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.1	48.1	< 0.005	0.01	0.12	50.3
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	0.86	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	181
Vendor	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.0	48.0	< 0.005	0.01	< 0.005	50.2
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.54	7.54	< 0.005	< 0.005	0.01	7.65

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.97	1.97	< 0.005	< 0.005	< 0.005	2.07
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.25	1.25	< 0.005	< 0.005	< 0.005	1.27
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.34
Hauling	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	0.00

3.7. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.31	1.31	< 0.005	0.13	0.13	—	5.40	5.40	< 0.005	< 0.005	0.01	5.69
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.31	1.31	< 0.005	0.13	0.13	—	5.38	5.38	< 0.005	< 0.005	< 0.005	5.66
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.49	0.41	3.84	4.49	0.01	0.17	—	0.17	0.16	—	0.16	—	821	821	0.03	0.01	—	824
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.45	0.45	< 0.005	0.04	0.04	—	1.85	1.85	< 0.005	< 0.005	< 0.005	1.95

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.70	0.82	< 0.005	0.03	—	0.03	0.03	—	0.03	—	136	136	0.01	< 0.005	—	136
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.32
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.15	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	201	201	0.01	0.01	0.82	205
Vendor	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.1	48.1	< 0.005	0.01	0.12	50.3
Hauling	0.04	0.01	0.57	0.21	< 0.005	0.01	0.08	0.08	0.01	0.02	0.03	—	303	303	0.03	0.05	0.63	319
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	0.86	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	181
Vendor	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.0	48.0	< 0.005	0.01	< 0.005	50.2
Hauling	0.04	0.01	0.61	0.21	< 0.005	0.01	0.08	0.08	0.01	0.02	0.03	—	303	303	0.03	0.05	0.02	318
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.30	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	62.9	62.9	< 0.005	< 0.005	0.12	63.8
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	16.5	16.5	< 0.005	< 0.005	0.02	17.2
Hauling	0.01	< 0.005	0.20	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	104	104	0.01	0.02	0.09	109
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.4	10.4	< 0.005	< 0.005	0.02	10.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.72	2.72	< 0.005	< 0.005	< 0.005	2.85
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	17.2	17.2	< 0.005	< 0.005	0.02	18.0

3.8. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.74	0.74	< 0.005	0.07	0.07	—	5.40	5.40	< 0.005	< 0.005	0.01	5.69
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.74	0.74	< 0.005	0.07	0.07	—	5.38	5.38	< 0.005	< 0.005	< 0.005	5.66
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.49	0.41	3.84	4.49	0.01	0.17	—	0.17	0.16	—	0.16	—	821	821	0.03	0.01	—	824
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.25	0.25	< 0.005	0.03	0.03	—	1.85	1.85	< 0.005	< 0.005	< 0.005	1.95
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.70	0.82	< 0.005	0.03	—	0.03	0.03	—	0.03	—	136	136	0.01	< 0.005	—	136
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.05	0.05	< 0.005	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.32
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.15	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	201	201	0.01	0.01	0.82	205
Vendor	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.1	48.1	< 0.005	0.01	0.12	50.3

Hauling	0.04	0.01	0.57	0.21	< 0.005	0.01	0.08	0.08	0.01	0.02	0.03	—	303	303	0.03	0.05	0.63	319
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	0.86	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	181
Vendor	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.0	48.0	< 0.005	0.01	< 0.005	50.2
Hauling	0.04	0.01	0.61	0.21	< 0.005	0.01	0.08	0.08	0.01	0.02	0.03	—	303	303	0.03	0.05	0.02	318
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.30	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	62.9	62.9	< 0.005	< 0.005	0.12	63.8
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	16.5	16.5	< 0.005	< 0.005	0.02	17.2
Hauling	0.01	< 0.005	0.20	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	104	104	0.01	0.02	0.09	109
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.4	10.4	< 0.005	< 0.005	0.02	10.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.72	2.72	< 0.005	< 0.005	< 0.005	2.85
Hauling	< 0.005	< 0.005	0.04	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	17.2	17.2	< 0.005	< 0.005	0.02	18.0

3.9. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.31	3.15	5.03	0.01	0.14	—	0.14	0.13	—	0.13	—	763	763	0.03	0.01	—	765

Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.31	1.31	< 0.005	0.13	0.13	—	5.38	5.38	< 0.005	< 0.005	< 0.005	5.66
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.52	0.83	< 0.005	0.02	—	0.02	0.02	—	0.02	—	125	125	0.01	< 0.005	—	126
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.22	0.22	< 0.005	0.02	0.02	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.93
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.8	20.8	< 0.005	< 0.005	—	20.8
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	0.15	0.15	< 0.005	< 0.005	< 0.005	0.15
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	0.86	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	181
Vendor	0.01	< 0.005	0.15	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	72.0	72.0	0.01	0.01	< 0.005	75.3
Hauling	0.02	< 0.005	0.30	0.11	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	151	151	0.01	0.02	0.01	159
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.2	30.2	< 0.005	< 0.005	0.06	30.6
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.8	11.8	< 0.005	< 0.005	0.01	12.4
Hauling	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.9	24.9	< 0.005	< 0.005	0.02	26.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.00	5.00	< 0.005	< 0.005	0.01	5.07
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.96	1.96	< 0.005	< 0.005	< 0.005	2.05
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.12	4.12	< 0.005	< 0.005	< 0.005	4.33

3.10. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.37	0.31	3.15	5.03	0.01	0.14	—	0.14	0.13	—	0.13	—	763	763	0.03	0.01	—	765
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.74	0.74	< 0.005	0.07	0.07	—	5.38	5.38	< 0.005	< 0.005	< 0.005	5.66
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.52	0.83	< 0.005	0.02	—	0.02	0.02	—	0.02	—	125	125	0.01	< 0.005	—	126
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.12	0.12	< 0.005	0.01	0.01	—	0.89	0.89	< 0.005	< 0.005	< 0.005	0.93
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.8	20.8	< 0.005	< 0.005	—	20.8
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.15	0.15	< 0.005	< 0.005	< 0.005	0.15
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.08	0.08	0.86	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	179	179	0.01	0.01	0.02	181
Vendor	0.01	< 0.005	0.15	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	72.0	72.0	0.01	0.01	< 0.005	75.3
Hauling	0.02	< 0.005	0.30	0.11	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	151	151	0.01	0.02	0.01	159
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.2	30.2	< 0.005	< 0.005	0.06	30.6
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.8	11.8	< 0.005	< 0.005	0.01	12.4
Hauling	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.9	24.9	< 0.005	< 0.005	0.02	26.2
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.00	5.00	< 0.005	< 0.005	0.01	5.07
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.96	1.96	< 0.005	< 0.005	< 0.005	2.05
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.12	4.12	< 0.005	< 0.005	< 0.005	4.33

3.11. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	0.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.31	1.31	< 0.005	0.13	0.13	—	5.40	5.40	< 0.005	< 0.005	0.01	5.69
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.07	0.64	0.82	< 0.005	0.03	—	0.03	0.03	—	0.03	—	124	124	0.01	< 0.005	—	125
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.11	0.11	< 0.005	0.01	0.01	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.47
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.12	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	20.6	20.6	< 0.005	< 0.005	—	20.6
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.07	0.07	< 0.005	< 0.005	< 0.005	0.08
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.06	1.15	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	201	201	0.01	0.01	0.82	205
Vendor	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.1	48.1	< 0.005	0.01	0.12	50.3
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.1	15.1	< 0.005	< 0.005	0.03	15.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.95	3.95	< 0.005	< 0.005	< 0.005	4.13
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.50	2.50	< 0.005	< 0.005	< 0.005	2.53
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.65	0.65	< 0.005	< 0.005	< 0.005	0.68
Hauling	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	0.00

3.12. Paving (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	0.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.74	0.74	< 0.005	0.07	0.07	—	5.40	5.40	< 0.005	< 0.005	0.01	5.69
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.64	0.82	< 0.005	0.03	—	0.03	0.03	—	0.03	—	124	124	0.01	< 0.005	—	125
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.06	0.06	< 0.005	0.01	0.01	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.47
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.12	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	20.6	20.6	< 0.005	< 0.005	—	20.6
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.07	0.07	< 0.005	< 0.005	< 0.005	0.08
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.09	0.09	0.06	1.15	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	201	201	0.01	0.01	0.82	205
Vendor	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	48.1	48.1	< 0.005	0.01	0.12	50.3
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.1	15.1	< 0.005	< 0.005	0.03	15.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.95	3.95	< 0.005	< 0.005	< 0.005	4.13
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.50	2.50	< 0.005	< 0.005	< 0.005	2.53
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.65	0.65	< 0.005	< 0.005	< 0.005	0.68
Hauling	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	0.00

3.13. Architectural Coating (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	0.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.05	8.05	< 0.005	< 0.005	—	8.08
Architectural Coatings	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.33	1.33	< 0.005	< 0.005	—	1.34
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00

Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00

3.14. Architectural Coating (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	0.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.05	8.05	< 0.005	< 0.005	—	8.08
Architectural Coatings	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.33	1.33	< 0.005	< 0.005	—	1.34
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.17	0.16	0.16	1.57	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	—	346	346	0.01	0.01	1.30	352
Parking Lot	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	0.00
Other Asphalt Surfaces	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	0.00
Total	0.17	0.16	0.16	1.57	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	—	346	346	0.01	0.01	1.30	352
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.16	0.14	0.19	1.30	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	—	316	316	0.02	0.02	0.03	321
Parking Lot	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	0.00
Other Asphalt Surfaces	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	0.00
Total	0.16	0.14	0.19	1.30	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	—	316	316	0.02	0.02	0.03	321
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.02	0.02	0.02	0.14	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	31.3	31.3	< 0.005	< 0.005	0.05	31.8
Parking Lot	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	0.00

Other Asphalt Surfaces	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	0.00
Total	0.02	0.02	0.02	0.14	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	31.3	31.3	< 0.005	< 0.005	0.05	31.8

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.17	0.16	0.16	1.57	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	—	346	346	0.01	0.01	1.30	352
Parking Lot	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	0.00
Other Asphalt Surfaces	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	0.00
Total	0.17	0.16	0.16	1.57	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	—	346	346	0.01	0.01	1.30	352
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.16	0.14	0.19	1.30	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	—	316	316	0.02	0.02	0.03	321
Parking Lot	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	0.00
Other Asphalt Surfaces	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	0.00
Total	0.16	0.14	0.19	1.30	< 0.005	< 0.005	0.28	0.28	< 0.005	0.07	0.07	—	316	316	0.02	0.02	0.03	321
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.02	0.02	0.02	0.14	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	31.3	31.3	< 0.005	< 0.005	0.05	31.8

Parking Lot	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	0.00
Other Asphalt Surfaces	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	0.00
Total	0.02	0.02	0.02	0.14	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	31.3	31.3	< 0.005	< 0.005	0.05	31.8

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	257	257	0.01	< 0.005	—	257
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	29.4	29.4	< 0.005	< 0.005	—	29.5
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	7.19	7.19	< 0.005	< 0.005	—	7.20
Total	—	—	—	—	—	—	—	—	—	—	—	—	293	293	0.01	< 0.005	—	294
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	257	257	0.01	< 0.005	—	257
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	29.4	29.4	< 0.005	< 0.005	—	29.5
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	7.19	7.19	< 0.005	< 0.005	—	7.20
Total	—	—	—	—	—	—	—	—	—	—	—	—	293	293	0.01	< 0.005	—	294

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	42.5	42.5	< 0.005	< 0.005	—	42.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	4.87	4.87	< 0.005	< 0.005	—	4.88
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	1.19	1.19	< 0.005	< 0.005	—	1.19
Total	—	—	—	—	—	—	—	—	—	—	—	—	48.6	48.6	< 0.005	< 0.005	—	48.7

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	257	257	0.01	< 0.005	—	257
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	29.4	29.4	< 0.005	< 0.005	—	29.5
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	7.19	7.19	< 0.005	< 0.005	—	7.20
Total	—	—	—	—	—	—	—	—	—	—	—	—	293	293	0.01	< 0.005	—	294
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	257	257	0.01	< 0.005	—	257
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	29.4	29.4	< 0.005	< 0.005	—	29.5
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	7.19	7.19	< 0.005	< 0.005	—	7.20

Total	—	—	—	—	—	—	—	—	—	—	—	—	293	293	0.01	< 0.005	—	294
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	42.5	42.5	< 0.005	< 0.005	—	42.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	4.87	4.87	< 0.005	< 0.005	—	4.88
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	1.19	1.19	< 0.005	< 0.005	—	1.19
Total	—	—	—	—	—	—	—	—	—	—	—	—	48.6	48.6	< 0.005	< 0.005	—	48.7

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	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
Parking Lot	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
Other Asphalt Surfaces	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
Total	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	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
Parking Lot	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

Other Asphalt Surfaces	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
Total	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	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
Parking Lot	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
Other Asphalt Surfaces	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
Total	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

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	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
Parking Lot	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
Other Asphalt Surfaces	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
Total	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	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

Parking Lot	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
Other Asphalt Surfaces	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
Total	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	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
Parking Lot	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
Other Asphalt Surfaces	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
Total	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

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	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

Total	0.00	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	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
Total	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	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
Total	0.00	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	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
Total	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	8.76	8.76	< 0.005	< 0.005	—	8.78
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.12	0.12	< 0.005	< 0.005	—	0.12
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	8.87	8.87	< 0.005	< 0.005	—	8.89
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	8.76	8.76	< 0.005	< 0.005	—	8.78
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.12	0.12	< 0.005	< 0.005	—	0.12
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	8.87	8.87	< 0.005	< 0.005	—	8.89
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	1.45	1.45	< 0.005	< 0.005	—	1.45
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.02	0.02	< 0.005	< 0.005	—	0.02
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	1.47	1.47	< 0.005	< 0.005	—	1.47

4.4.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	8.76	8.76	< 0.005	< 0.005	—	8.78
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.12	0.12	< 0.005	< 0.005	—	0.12
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	8.87	8.87	< 0.005	< 0.005	—	8.89
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	8.76	8.76	< 0.005	< 0.005	—	8.78
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.12	0.12	< 0.005	< 0.005	—	0.12
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	8.87	8.87	< 0.005	< 0.005	—	8.89
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	1.45	1.45	< 0.005	< 0.005	—	1.45
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.02	0.02	< 0.005	< 0.005	—	0.02
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	1.47	1.47	< 0.005	< 0.005	—	1.47

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.34	0.00	0.34	0.03	0.00	—	1.18
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.34	0.00	0.34	0.03	0.00	—	1.18
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.34	0.00	0.34	0.03	0.00	—	1.18
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.34	0.00	0.34	0.03	0.00	—	1.18
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.19
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.19

4.5.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.34	0.00	0.34	0.03	0.00	—	1.18
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.34	0.00	0.34	0.03	0.00	—	1.18
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.34	0.00	0.34	0.03	0.00	—	1.18
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.34	0.00	0.34	0.03	0.00	—	1.18
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.19

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.19

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	3/1/2024	3/21/2024	5.00	15.0	—
Site Preparation	Site Preparation	3/1/2024	3/21/2024	5.00	15.0	—
Grading	Grading	3/22/2024	4/11/2024	5.00	15.0	—
Building Construction 1	Building Construction	4/12/2024	10/3/2024	5.00	125	—
Building Construction 2	Building Construction	10/4/2024	12/26/2024	5.00	60.0	—
Paving	Paving	5/1/2024	6/11/2024	5.00	30.0	—
Architectural Coating	Architectural Coating	12/1/2024	12/31/2024	5.00	22.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction 1	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction 1	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction 1	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction 1	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction 1	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction 2	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction 1	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction 1	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction 1	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction 1	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction 1	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction 2	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Demolition	—	—	—	—
Demolition	Worker	20.0	12.4	LDA,LDT1,LDT2
Demolition	Vendor	2.00	7.10	HHDT,MHDT
Demolition	Hauling	20.0	20.0	HHDT
Demolition	Onsite truck	1.00	1.00	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	12.4	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	7.10	HHDT,MHDT
Site Preparation	Hauling	4.00	20.0	HHDT
Site Preparation	Onsite truck	1.00	1.00	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.4	LDA,LDT1,LDT2
Grading	Vendor	2.00	7.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	1.00	1.00	HHDT
Building Construction 1	—	—	—	—
Building Construction 1	Worker	20.0	12.4	LDA,LDT1,LDT2
Building Construction 1	Vendor	2.00	7.10	HHDT,MHDT
Building Construction 1	Hauling	4.00	20.0	HHDT
Building Construction 1	Onsite truck	1.00	1.00	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	12.4	LDA,LDT1,LDT2
Paving	Vendor	2.00	7.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	1.00	1.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	12.4	LDA,LDT1,LDT2

Architectural Coating	Vendor	0.00	7.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	HHDT
Building Construction 2	—	—	—	—
Building Construction 2	Worker	20.0	12.4	LDA,LDT1,LDT2
Building Construction 2	Vendor	3.00	7.10	HHDT,MHDT
Building Construction 2	Hauling	2.00	20.0	HHDT
Building Construction 2	Onsite truck	1.00	1.00	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	20.0	12.4	LDA,LDT1,LDT2
Demolition	Vendor	2.00	7.10	HHDT,MHDT
Demolition	Hauling	20.0	20.0	HHDT
Demolition	Onsite truck	1.00	1.00	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	12.4	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	7.10	HHDT,MHDT
Site Preparation	Hauling	4.00	20.0	HHDT
Site Preparation	Onsite truck	1.00	1.00	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	12.4	LDA,LDT1,LDT2
Grading	Vendor	2.00	7.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	1.00	1.00	HHDT
Building Construction 1	—	—	—	—

Building Construction 1	Worker	20.0	12.4	LDA,LDT1,LDT2
Building Construction 1	Vendor	2.00	7.10	HHDT,MHDT
Building Construction 1	Hauling	4.00	20.0	HHDT
Building Construction 1	Onsite truck	1.00	1.00	HHDT
Paving	—	—	—	—
Paving	Worker	20.0	12.4	LDA,LDT1,LDT2
Paving	Vendor	2.00	7.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	1.00	1.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	12.4	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	7.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	HHDT
Building Construction 2	—	—	—	—
Building Construction 2	Worker	20.0	12.4	LDA,LDT1,LDT2
Building Construction 2	Vendor	3.00	7.10	HHDT,MHDT
Building Construction 2	Hauling	2.00	20.0	HHDT
Building Construction 2	Onsite truck	1.00	1.00	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

Architectural Coating	0.00	0.00	0.00	1,760	3,267

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Ton of Debris)	Material Exported (Ton of Debris)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	1,500	—
Site Preparation	0.00	0.00	15.0	0.00	—
Grading	0.00	0.00	20.0	0.00	—
Paving	0.00	0.00	0.00	0.00	1.25

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
City Park	0.00	0%
Parking Lot	0.75	100%
Other Asphalt Surfaces	0.50	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	375	0.01	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
City Park	14.5	29.0	32.6	6,994	174	349	393	84,160
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
City Park	14.5	29.0	32.6	6,994	174	349	393	84,160
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	3,267

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
City Park	250,000	375	0.0129	0.0017	0.00
Parking Lot	28,619	375	0.0129	0.0017	0.00
Other Asphalt Surfaces	7,000	375	0.0129	0.0017	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
City Park	250,000	375	0.0129	0.0017	0.00
Parking Lot	28,619	375	0.0129	0.0017	0.00
Other Asphalt Surfaces	7,000	375	0.0129	0.0017	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
City Park	0.00	5,288,040
Parking Lot	0.00	69,832
Other Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
City Park	0.00	5,288,040
Parking Lot	0.00	69,832
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
City Park	0.62	—
Parking Lot	0.00	—
Other Asphalt Surfaces	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
City Park	0.62	—
Parking Lot	0.00	—
Other Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
City Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	21.8	annual days of extreme heat
Extreme Precipitation	6.35	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	2	0	0	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	0	0	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	2	1	1	3
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	59.7
AQ-PM	39.3
AQ-DPM	77.2
Drinking Water	67.6
Lead Risk Housing	61.8
Pesticides	0.00
Toxic Releases	21.4
Traffic	85.5
Effect Indicators	—
CleanUp Sites	19.0
Groundwater	6.97
Haz Waste Facilities/Generators	56.7
Impaired Water Bodies	58.7
Solid Waste	0.00

Sensitive Population	—
Asthma	94.3
Cardio-vascular	79.9
Low Birth Weights	32.0
Socioeconomic Factor Indicators	—
Education	32.9
Housing	68.5
Linguistic	27.3
Poverty	64.5
Unemployment	44.4

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	31.48979854
Employed	9.136404466
Median HI	31.13050173
Education	—
Bachelor's or higher	48.40241242
High school enrollment	100
Preschool enrollment	65.76414731
Transportation	—
Auto Access	33.77389965
Active commuting	54.47196202
Social	—
2-parent households	75.92711408

Voting	57.17952008
Neighborhood	—
Alcohol availability	41.17798024
Park access	38.6629026
Retail density	88.57949442
Supermarket access	22.61003465
Tree canopy	89.25959194
Housing	—
Homeownership	42.78198383
Housing habitability	58.78352368
Low-inc homeowner severe housing cost burden	85.11484666
Low-inc renter severe housing cost burden	28.57692801
Uncrowded housing	66.03361992
Health Outcomes	—
Insured adults	54.83125882
Arthritis	0.0
Asthma ER Admissions	6.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	2.4
Cognitively Disabled	11.9
Physically Disabled	50.9
Heart Attack ER Admissions	24.9

Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	99.1
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	76.4
Elderly	30.4
English Speaking	42.3
Foreign-born	33.9
Outdoor Workers	68.6
Climate Change Adaptive Capacity	—
Impervious Surface Cover	63.4
Traffic Density	93.3
Traffic Access	87.4
Other Indices	—
Hardship	52.6
Other Decision Support	—
2016 Voting	38.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	63.0
Healthy Places Index Score for Project Location (b)	40.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Renfree Field Renovation - Parking lot demo, repave parking area, basketball and pickleball courts, new field, new path, and area west of bridge road.
Construction: Construction Phases	Construction duration 8-10 months
Construction: Trips and VMT	Vendor and onsite travel added
Construction: Architectural Coatings	1,760 sq ft for pickleball court surfacing
Operations: Energy Use	Lighting for field and courts added
Operations: Refrigerants	No refrigerants
Construction: Dust From Material Movement	none

Construction: Off-Road Equipment	Building construction 2 is for plant establishment
Operations: Vehicle Data	Increased weekday trips

APPENDIX C

Biological Resources Evaluation

APPENDIX C

Biological Resources Evaluation

Biological Resources Evaluation for the Renfree Field Renovation Project, Sacramento, Sacramento County, California

JULY 2023

PREPARED FOR

City of Sacramento

PREPARED BY

SWCA Environmental Consultants

BIOLOGICAL RESOURCES EVALUATION FOR THE RENFREE FIELD RENOVATION PROJECT, SACRAMENTO, SACRAMENTO COUNTY, CALIFORNIA

Prepared for

City of Sacramento
Youth, Parks, and Community Enrichment
915 I Street, 3rd Floor
Sacramento, CA 95814
Attn: Dennis Day and Jason Wiesemann

Prepared by

SWCA Environmental Consultants
6355 Riverside Boulevard, Suite C
Sacramento, CA 95831
(916) 427-0703
www.swca.com

SWCA Project No. 74845

July 2023

CONTENTS

1 Introduction 1
2 Project Description 1
2.1 Location 1
2.2 Project Overview 1
3 Environmental Setting 2
3.1 Existing conditions 2
3.2 Topography 2
3.3 Climate 2
3.4 Soils 2
4 Regulatory Setting 3
4.1 Federal 3
4.1.1 Clean Water Act 3
4.1.2 Federal Endangered Species Act 4
4.1.3 Migratory Bird Treaty Act 4
4.2 State 5
4.2.1 California Endangered Species Act 5
4.2.2 California Environmental Quality Act 5
4.2.3 Native Plant Protection Act 6
4.2.4 California Fish and Game Code Sections 1600 through 1607 6
4.2.5 California Fish and Game Code Sections 3503 and 3513 6
4.2.6 California Fish and Game Code Sections 3511, 4700, 5050, and 5515 6
4.2.7 California Fish and Game Code Sections 4150 through 4155 7
4.2.8 Porter-Cologne Water Quality Control Act 7
4.3 Local 7
4.3.1 Sacramento City Code 7
5 Methods 8
5.1 Definitions 8
5.1.1 Special-Status Plant Species 8
5.1.2 Special-Status Wildlife Species 8
5.1.3 Sensitive Natural Communities 8
5.1.4 Species Potential to Occur 9
5.2 Background Research 9
5.3 Field Survey 9
6 Results 10
6.1 Special-Status Species 10
6.1.1 Plants 10
6.1.2 Wildlife 10
6.2 Nesting Migratory Birds/Raptors 12
6.3 Critical Habitat 12
6.4 Natural Communities and Other Land Covers 12
6.4.1 Natural and Semi-Natural Communities 12
6.4.2 Other Habitats/Land Covers 14
6.5 Essential Fish Habitat 14
6.6 Wetlands/Waters 14

6.7 Migratory Corridors 14
6.8 Protected Trees 14
7 Discussion 15
7.1 Impacts to Nesting Birds 15
7.2 Sensitive Natural Community Impacts 15
7.3 Protected Tree Impacts 16
8 Avoidance and Minimization Measures 17
8.1 General Measures 17
8.2 Species-Specific Measures 18
8.3 Protected Trees 18
9 Literature Cited 20

Appendices

Appendix A. Figures
Appendix B. USFWS Species List, CNDDB Summary Report, CNPS Inventory Query, and eBird Bird Observation Data
Appendix C. Plant and Wildlife Species Observed Tables
Appendix D. Site Photographs
Appendix E. Special-Status Species Evaluated Tables
Appendix F. Arborist Report

Tables

Table 1. BSA Tree Species Composition 15
Table 2. Project Tree Impacts by Tree Species 16

List of Abbreviated Terms

°F	Fahrenheit
AMM	Avoidance and Minimization Measure
BRE	Biological Resources Evaluation
BSA	Biological Survey Area
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
City	City of Sacramento
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	County of Sacramento
CRPR	California Rare Plant Rank
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships Program
ESA	Environmentally Sensitive Area
FESA	Federal Endangered Species Act
FP	Fully Protected
GPS	Global Positioning System
IPaC	Information for Planning and Consultation
LSAA	Lake or Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act
NOAA Fisheries	National Oceanic and Atmospheric Administration National Marine Fisheries Service
NPPA	Native Plant Protection Act

NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
PRC	Public Resources Code
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
State Water Board	California State Water Resources Control Board
UCB	University of California, Berkeley
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTM	Universal Transverse Mercator
WDR	waste discharge requirement
WGS84	World Geodetic System 1984
WOTUS	waters of the United States

1 INTRODUCTION

This Biological Resources Evaluation (BRE) has been prepared by SWCA Environmental Consultants (SWCA), at the request of the City of Sacramento (City), to identify sensitive biological resources that may be impacted by the Renfree Field Renovation Project (project). This BRE describes the regulatory setting for the project, the Biological Study Area (BSA), the methods and results of the background research and field surveys, a discussion of the possible permitting implications of the project, and recommended measures to avoid and minimize project impacts. SWCA anticipates that this BRE will be used along with a separate aquatic resources delineation report to support environmental permitting.

2 PROJECT DESCRIPTION

2.1 Location

The proposed project is located within the larger Del Paso Regional Park in the northwest portion of the city of Sacramento, Sacramento County, California. Del Paso Regional Park is an approximately 630-acre multi-use park and includes Harry Renfree Field (Renfree Field). The park is bounded by Park Road to the north, the on- and off-ramps to Highway 244 to the east, Auburn Boulevard to the south, and Watt Avenue to the west. (Appendix A: Figures 1 and 2). The project site occurs on the Rio Linda, California U.S. Geological Survey (USGS) 7.5-minute quadrangle (T9N, R5E). The geographic coordinates of the centroid of the BSA are 38.64041° north, 121.37691° west (World Geodetic System 1984 [WGS84]), and the Universal Transverse Mercator (UTM) coordinates are 641,288 m east, 4,277,953 m north, Zone 10S (WGS84) (USGS 2022).

2.2 Project Overview

The proposed project includes the replacement of the current Renfree Field baseball facilities with two side-by-side baseball fields (Field 1 and Practice Field 2) with overlapping outfield areas and a new soccer field. Baseball Field 1 would be located on roughly the same footprint as the existing Renfree Field, be oriented similarly, and have 30-foot-tall backstop fencing. Practice Field 2 and its 30-foot-tall backstop fencing would be located on the southeast portion of the site, north of the play structure and eastern parking lot and adjacent to the existing walking paths/equestrian trails. A 210-foot by 330-foot soccer field would be striped in the outfield area(s) of the proposed new ballfields on the north portion of the existing Renfree Field. Infrastructure associated with the existing Renfree Field such as bleachers, bullpens, shaded dugouts, lighting, and connecting sidewalks would be replaced. New bleachers, bullpens, and shaded dugouts would be developed for Practice Field 2. All proposed project improvements are shown in Figure 3 (see Appendix A).

The northern portion of the western parking lot would be redesigned to include a full-sized asphalt basketball court and four pickleball courts with benches and fencing. The southern portion of the existing western parking lot would be redesigned to accommodate an approximately 77-space vehicle parking lot with two-way access via Bridge Road. A parking gate would be placed at the entry and a bioswale would provide stormwater filtration prior to entering the storm drain.

The proposed sidewalk improvements would extend west from the edge of the existing parking lot across Bridge Road and along the north side of Auburn Boulevard to the edge of the Owl Creek Terrace and would connect the new and existing park features. The proposed project would also include new lighting for the walkway, parking lot, sports courts, and baseball fields. New lighting for the baseball fields would replace the existing light towers and be oriented along the perimeter of the field to accommodate lighting

for the two baseball fields and soccer field. There would be eight new approximately 60-foot-tall light towers, which are the same number and height as the existing light towers that would be removed.

Redevelopment of Renfree Field and the western parking lot to accommodate additional ballfields and sports courts and construction of 75 linear feet of new 5-foot-wide sidewalk along Auburn Boulevard on the southern perimeter of site would not increase the amount of impervious surfaces on the project site compared to existing conditions. Grading of the Owl Creek Terrace and subsequent hydroseeding with a pre-selected herbaceous mix would occur immediately west of Bridge Road, where excess soil was placed as part of the development of the 21-space parking lot on the east side of project site.

3 ENVIRONMENTAL SETTING

3.1 Existing conditions

The BSA comprises the entirety of Renfree Field and adjacent areas of Del Paso Park, covering a total area of 12.87 acres, and is divided by Bridge Road running north to south through the western half of the project site. Renfree Field currently contains a public park with a baseball field, a playground, and two parking lots. The project area contains two sections of the trail system that loops through Del Paso Park. West of Bridge Road, the BSA is undeveloped and contains a cleared field bounded by a chain-link fence on the south and west sides. Arcade Creek is located north of the BSA and runs through the Del Paso Park from west to east, dividing the park into a smaller northern portion that is largely maintained as a natural area and larger southern portion that contains a mix of natural areas and park improvements, such as playing fields, playgrounds, and parking lots.

Existing vegetation is predominantly composed of areas of landscape plants and shade trees around the parking lots and throughout the playground area and turf grass on the baseball fields. The northern and eastern perimeter of Renfree Field is surrounded by natural areas consisting of Valley Oak Woodland with a grass understory.

3.2 Topography

The BSA is situated within the Sacramento Valley at an elevation of approximately 68 feet above mean sea level. The topography of the project site is generally flat and gently slopes to the northwest (see Appendix A: Figure 1). The project site is located in the Arcade Creek watershed (hydrologic unit code 180201110302; U.S. Environmental Protection Agency [USEPA] 2022).

3.3 Climate

The BSA experiences a Mediterranean climate characterized by hot, dry summers and cool, wet winters. Temperatures in Sacramento range from an average high of 92 degrees Fahrenheit (°F) in July to an average low of 39°F in January. The average annual precipitation from 1981 to 2010 in Sacramento was 18.52 inches (U.S. Climate Data 2022).

3.4 Soils

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2022), soils in the BSA consist of two soil types—Liveoak sandy clay loam and San Joaquin Urban Land complex soil series (see Appendix A: Figure 4). The Liveoak series

consists of very deep, moderately well-drained soils formed in loamy alluvium from mixed sources. This soils type occurs mainly along the eastern and southeastern part of the Sacramento Valley. The San Joaquin series consists of moderately deep to a duripan, well- and moderately well-drained soils that formed in alluvium derived from mixed but dominantly granitic rock sources. This soils type occurs mainly along the eastern side of the Sacramento and San Joaquin Valleys.

4 REGULATORY SETTING

4.1 Federal

4.1.1 *Clean Water Act*

The Clean Water Act (CWA) is the primary federal law regulating water quality. The implementation of the CWA is the responsibility of the USEPA; however, the USEPA depends on other agencies, such as the U.S. Army Corps of Engineers (USACE) and individual states to assist. The objective of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Sections 404 and 401 of the CWA apply to activities that would impact waters of the United States (WOTUS). The USACE enforces Section 404 of the CWA, and the California State Water Resources Control Board (State Water Board) enforces Section 401, as well as state water laws.

4.1.1.1 SECTION 404

Section 404 of the CWA prohibits the discharge of dredged or fill material into WOTUS without formal consent from the USACE. On August 31, 2021, the Navigable Waters Protection Rule, which defined WOTUS, was vacated and remanded. In accordance with the current guidance from the USEPA and USACE, WOTUS should be interpreted as consistent with the pre-2015 regulatory regime until further notice (USEPA 2021), which is defined as follows:

- All waters currently or previously susceptible to use in interstate foreign commerce;
- All interstate waters, including interstate wetlands;
- Waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce;
- All impoundments of waters otherwise defined as WOTUS under this definition;
- Tributaries of waters identified in the bullet points above;
- The territorial sea; and
- Wetlands adjacent to waters identified in the preceding bullet points.

Wetlands are defined as those areas "that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 Code of Federal Regulations [CFR] 328.3(b)).

Projects that minimally affect WOTUS may meet the conditions of one of the existing Nationwide Permits, provided that certain conditions are satisfied. Substantial impacts to WOTUS may require an Individual Permit, which, among other requirements, involves an alternatives analysis to demonstrate why

impacts cannot be avoided. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions.

4.1.1.2 SECTION 401

Any application for a federal permit to impact WOTUS under Section 404 of the CWA, including Nationwide Permits where preconstruction notification is required, must also provide to the USACE a certification or waiver from the State of California. The "401 Certification" is provided by the State Water Board through the local Regional Water Quality Control Board (RWQCB).

The RWQCB issues and enforces permits for discharge of treated water, landfills, storm-water runoff, filling of any surface waters or wetlands, dredging, agricultural activities, and wastewater recycling. The RWQCB recommends the 401 Certification application be made at the same time that any applications are provided to other agencies, such as the USACE, U.S. Fish and Wildlife Service (USFWS), or National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries). The application is not final until completion of environmental review under California Environmental Quality Act (CEQA). The application to the RWQCB must include:

- a description of the habitat that is being impacted,
- how much habitat is being impacted temporarily and permanently,
- a description of how the impact is proposed to be minimized, and
- mitigation measures with goals, schedules, and performance standards. Mitigation must include a replacement of functions and values, and replacement of wetland. The RWQCB looks for mitigation that is on-site and in-kind, with functions and values as good as or better than the water-based habitat that is being removed.

4.1.2 *Federal Endangered Species Act*

The Federal Endangered Species Act (FESA) of 1973, as amended, provides the regulatory framework for the protection of plant and animal species (and their associated critical habitats), which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under the FESA. The FESA has the following four major components: (1) provisions for listing species; (2) requirements for consultation with the USFWS and NOAA Fisheries; (3) prohibitions against "taking" (i.e., harassing, harming, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to engage in any such conduct) of listed species; and (4) provisions for permits that allow incidental "take." Recovery plans and the designation of critical habitat for listed species are defined in the FESA.

Under Section 7 of the FESA, any federal agency that is authorizing, funding, or carrying out an action that may jeopardize the continued existence of federally listed threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species must consult with the federal agency that oversees the protection of that species, typically the USFWS and/or NOAA Fisheries, depending on the species that may be affected. Non-federal agencies and private entities can seek authorization for take of federally listed species under Section 10 of the FESA, which requires the preparation of a Habitat Conservation Plan.

4.1.3 *Migratory Bird Treaty Act*

The U.S. Migratory Bird Treaty Act (MBTA; 16 United States Code [USC] Section 703 et seq., 50 CFR Part 10) states it is "unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill; attempt to take, capture or kill; possess, offer for sale, sell, offer to barter, barter, offer to purchase,

purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export any migratory bird, any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or in part, of any such bird or any part, nest or egg thereof . . . "

The long-standing interpretation was that take that is incidental to otherwise lawful activities was prohibited in addition to intentional take. In 2017 the U.S. Department of the Interior Solicitor's Office released Opinion M-37050, which opined that the legal scope of the MBTA applies only to intentional take of migratory birds and that the take of birds resulting from an activity is not prohibited when the underlying purpose of that activity is not to take birds. In February 2020, the USFWS published a proposed rule to codify M-37050. In January 2021, after preparing an Environmental Impact Statement and receiving public comments on the proposed rule, the USFWS published the final rule formalizing this interpretation of the MBTA. As a result, the MBTA was limited to purposeful actions, such as directly and knowingly removing a nest to construct a project, hunting, and poaching, and not to actions resulting in incidental take. However, in May 2021, the USFWS proposed to revoke that rule and return to implementing the MBTA as prohibiting incidental take and applying enforcement discretion, consistent with judicial precedent. In July 2021, the USFWS announced that two economic analysis documents associated with the proposed revocation of the rule were open for public review and comment. The comment period closed on August 19, 2021.

4.2 State

4.2.1 *California Endangered Species Act*

The California Endangered Species Act (CESA; California Fish and Game Code [CFGC] 2050 et seq.) generally parallels the FESA. It establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. Section 2080 of the CFGC prohibits the take, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or by the regulations. "Take" is defined in Section 86 of the CFGC as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." This definition differs from the definition of take under the FESA. The CESA, which is administered by the California Department of Fish and Wildlife (CDFW), allows for take incidental to otherwise lawful projects but mandates that state lead agencies consult with the CDFW to ensure that a project would not jeopardize the continued existence of threatened or endangered species.

4.2.2 *California Environmental Quality Act*

CEQA (Public Resources Code [PRC] Sections 21000 et. seq.) requires public agencies to review activities that may affect the quality of the environment so that consideration is given to preventing damage to the environment. When a lead agency issues a permit for development that could affect the environment, it must disclose the potential environmental effects of the project. This is done with an "Initial Study and Negative Declaration" (or Mitigated Negative Declaration) or with an "Environmental Impact Report." Certain classes of projects are exempt from detailed analysis under CEQA.

State CEQA Guidelines Section 15380 defines endangered, threatened, and rare species for purposes of CEQA and clarifies that CEQA review extends to other species that are not formally listed under the FESA or CESA but meet specified criteria. The state maintains a list of sensitive, or "special-status," biological resources, including those listed by the federal or state government or the California Native Plant Society (CNPS) as endangered, threatened, rare or of special concern due to declining populations. During CEQA analysis for a proposed project, the California Natural Diversity Data Base (CNDDB) is

usually consulted. The CNDDB relies on information provided by the USFWS, CDFW, and CNPS, among others. Under CEQA, the lists kept by these and any other widely recognized organizations are considered when determining the impact of a project.

4.2.3 *Native Plant Protection Act*

The Native Plant Protection Act (NPPA) was created in 1977 with the intent to preserve, protect, and enhance rare and endangered plants in California (CFGC Sections 1900–1913). The NPPA is administered by the CDFW, which has the authority to designate native plants as endangered or rare and to protect them from take. The CDFW maintains a list of plant species that have been officially classified as endangered, threatened, or rare. These special-status plants have special protection under California law, and projects that directly impact them may not qualify for a categorical exemption under CEQA guidelines. With regulation promulgated in 2015, the CDFW may permit impacts to plants designated as rare under the NPPA using the same procedures for threatened, endangered, and candidate plant species protected under the CESA.

4.2.4 *California Fish and Game Code Sections 1600 through 1607*

Sections 1600 through 1607 of the CFGC require that a Notification of Lake or Streambed Alteration Agreement (LSAA) application be submitted to the CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." The CDFW reviews the proposed actions in the application and, if necessary, prepares an LSAA that includes measures to protect affected fish and wildlife resources, including mitigation for impacts to bats and bat habitat.

4.2.5 *California Fish and Game Code Sections 3503 and 3513*

Nesting birds, including raptors, are protected under CFGC Section 3503, which reads, "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." In addition, under CFGC Section 3503.5, "it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Passerines and non-passerine land birds are further protected under CFGC Section 3513. As such, the CDFW typically recommends surveys for nesting birds that could potentially be directly (e.g., actual removal of trees/vegetation) or indirectly (e.g., noise disturbance) impacted by project-related activities. Disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered take by the CDFW.

4.2.6 *California Fish and Game Code Sections 3511, 4700, 5050, and 5515*

The classification of California fully protected (FP) species was the CDFW's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for birds, mammals, amphibians and reptiles, and fish. Most of the species on these lists have subsequently been listed under the FESA and/or CESA. The CFGC (Sections 3511 for birds, 4700 for mammals, 5050 for amphibian and reptiles, and 5515 for fish) deals with FP species and state that these species ". . . may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species." Take of these species may be authorized for necessary scientific research. This language makes the FP designation the strongest and most restrictive regarding the take of these species. In 2003 the code

sections dealing with FP species were amended to allow the CDFW to authorize take resulting from recovery activities for state-listed species.

4.2.7 California Fish and Game Code Sections 4150 through 4155

Sections 4150 through 4155 of the CFGC protect non-game mammals, including bats. Section 4150 states "A mammal occurring naturally in California that is not a game mammal, fully protected mammal, or fur-bearing mammal is a nongame mammal. A non-game mammal may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission." The non-game mammals that may be taken or possessed are primarily those that cause crop or property damage. Bats are classified as a non-game mammal and are protected under the CFGC.

4.2.8 Porter-Cologne Water Quality Control Act

The intent of the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is to protect water quality and the beneficial uses of water, and it applies to both surface and ground water. Under this law, the State Water Board develops statewide water quality plans and the RWQCBs develop basin plans, which identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under the Porter-Cologne Act, referred to as "waters of the State," include isolated waters that are not regulated by the USACE. Projects that require a USACE permit, or fall under other federal jurisdiction, and have the potential to impact waters of the State are required to comply with the terms of the Water Quality Certification Program. If a proposed project does not require a federal license or permit, any person discharging, or proposing to discharge, waste (e.g., dirt) into waters of the State must file a Report of Waste Discharge and receive either waste discharge requirements (WDRs) or a waiver to WDRs before beginning the discharge.

4.3 Local

4.3.1 Sacramento City Code

Sacramento City Code Chapter 12.56 Tree Planting, Maintenance, And Conservation ordinances concerning the planting, maintenance and conservation of trees within city limits. Section 12.56.020 outlines definitions as follows: "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.

Section 12.56.030 outlines the Inspection, Maintenance, and Removal of trees by the City.

A. The director may plant, inspect, perform regulated work on, or perform routine maintenance on city trees.

B. No person shall interfere or cause any other person to interfere with any tree related work performed pursuant to this code by any city employee or any city contractor.

C. Removal of city trees.

    1. If the director intends to remove a city tree, the director shall post notice of the intent to remove the city tree for 15 days in a conspicuous place on or in proximity to the tree.

2. Within the 15-day notice period, any person may file a written objection with the director requesting a meeting with the director with the meeting to occur within 30 days after filing the written objection.
3. The director shall provide a written decision on the objection within 10 days after the meeting. The director's decision shall be final.

5 METHODS

The 12.87-acre BSA consists of Renfree Field and adjacent areas of Del Paso Park, including an approximately 80-foot buffer surrounding the proposed project footprint, as illustrated in Figure 5 (see Appendix A).

5.1 Definitions

5.1.1 *Special-Status Plant Species*

For the purposes of this BRE, special-status plant species are defined as the following:

- Plants listed or proposed for listing as threatened or endangered under the FESA
- Plants listed, proposed, or candidate for listing as threatened or endangered under the CESA
- Plants considered by the CNPS to be "rare, threatened, or endangered" in California (California Rare Plant Ranks [CRPR] 1A, 1B, 2A, 2B, and 3)
- Plants listed under the NPPA

5.1.2 *Special-Status Wildlife Species*

For the purposes of this BRE, special-status wildlife species are defined as the following:

- Wildlife listed or proposed for listing as threatened or endangered under the FESA
- Wildlife that are candidates for listing as threatened or endangered under the FESA
- Wildlife listed, proposed, or candidate for listing as threatened or endangered under the CESA
- CDFW Species of Special Concern (SSC)
- California FP species

5.1.3 *Sensitive Natural Communities*

For the purposes of this BRE, sensitive natural communities are defined as the following:

- Aquatic (wetland, water, and riparian) communities protected under federal and/or state regulatory programs
- Vegetation alliances and associations with a California State Rarity Rank (S) of S1, S2, or S3 (considered sensitive by CDFW)

5.1.4 *Species Potential to Occur*

The likelihood that a particular special-status species occurs in the BSA was determined based on natural history parameters, including, but not limited to, the species' range, habitat, foraging needs, migration routes, and reproductive requirements. The following definitions apply:

- **Present:** The species has been documented within the BSA by a reliable observer during recent surveys and habitat has not significantly degraded since the observation (e.g., no habitat removal associated with a development).
- **Likely to occur:** The species has a reasonable to strong likelihood to be present in the BSA as indicated by factors such as habitat quality, proximity to known records, presence of suitable dispersal corridors, etc. The BSA contains suitable habitat and is located within the elevational and geographic ranges of the species.
- **Unlikely to occur:** The species is not likely to occur in the BSA. Potentially suitable habitat is present. The BSA may be outside of the species' elevational and/or geographic ranges, contain substantially degraded or fragmented habitat, lack recent (i.e., within the last 10 years) occurrence records within dispersal distance, occur in an area isolated from known populations by barriers to migration/dispersal, and/or contain predators or invasive species that inhibit survival or occupation.
- **No potential:** The species is not expected to occur in the BSA due to absence of potentially suitable habitat, the location of the BSA substantially outside of the species' elevational and/or geographic ranges, or the species is restricted to or known to be present only within a specific area outside of the BSA.
- **Absent:** The species was not detected during focused or protocol-level surveys for the project.

5.2 Background Research

SWCA performed a literature and database review to identify potential sensitive biological resources that have the potential to occur in the BSA. The database review consisted of a CNDDB record search for special-status species within nine USGS 7.5-minute quadrangles surrounding the BSA (CDFW 2022a), a CNPS Rare Plant Program Inventory of Rare and Endangered Plants of California record search of the nine USGS 7.5-minute quadrangles surrounding the project site (CNPS 2022), and a query of the USFWS Information for Planning and Consultation (IPaC) (USFWS 2022a). The results of these database queries are included in Appendix B.

Other sources reviewed included the following:

- USDA NRCS Web Soil Survey (NRCS 2022)
- USFWS National Wetland Inventory (NWI) (USFWS 2022b)
- The California Natural Communities List (CDFW 2022b)
- eBird (Cornell Lab of Ornithology 2023)

5.3 Field Survey

On December 7, 2022, SWCA Staff Biologist Alec Villanueva conducted a survey of the BSA to evaluate the presence or absence of sensitive biological resources, including suitable habitat for special-status species determined to have the potential to occur in the BSA, sensitive natural communities, and

potentially jurisdictional wetland features. The biologists walked the BSA and documented suitable habitat (e.g., burrows) and active bird nests observed with a sub-meter accurate Global Positioning System (GPS) unit. Wildlife and plant species observed during the survey were recorded. Vegetation was classified and mapped to the alliance or association level using *A Manual of California Vegetation Online* (CNPS 2022). Plant species were identified on sight or with the aid of dichotomous keys in the Jepson eFlora (University of California, Berkeley [UCB] 2022). A list of plant and wildlife species observed during the field survey are included in Appendix C, and representative photographs depicting existing conditions are in included in Appendix D.

6 RESULTS

6.1 Special-Status Species

6.1.1 *Plants*

The background research resulted in 12 special-status plants that have potential to occur in the nine quadrangles surrounding the BSA, as described in Table E-1 in Appendix E. As described in the table, none of these species are likely to occur in the BSA based on on-site conditions, habitat suitability, proximity of recent occurrences, species' geographic ranges, and field observations. Special-status plants will not be discussed further in this document.

6.1.2 *Wildlife*

Based on a CNDDB query and a review of existing literature, 28 special-status wildlife species were identified within the nine quadrangles surrounding the project, as described in Table E-2 in Appendix E. Of the 28 special-status wildlife species evaluated, only white-tailed kite (*Elanus leucurus*) and purple martin (*Progne subis*) were determined to likely have potential to occur on-site. The BSA also contains suitable nesting trees for Swainson's hawk (*Buteo swainsoni*); however, this species was determined to be unlikely to occur due to the lack of suitable foraging habitat within the BSA as well as the presence of more favorable habitat within the vicinity of the BSA. No special-status wildlife were observed during the December 2022 field survey.

The remaining 27 species were determined to be unlikely or have no potential to occur in the BSA due to a lack of suitable foraging and/or breeding habitat, aestivating habitat, and/or other biotic considerations, or the BSA is outside of the species' current known range. These species will not be discussed further in this document. The special-status wildlife species that are present, or that have potential to occur, are discussed in the following sections.

6.1.2.1 WHITE TAILED KITE

White-tailed kite is a state FP species (CDFW 2022c) that is a common to uncommon yearlong resident of coastal and valley lowlands in cismontane California and is absent from the higher elevations in the Sierra Nevada, the Modoc Plateau, and from most desert regions (California Wildlife Habitat Relationships Program [CWHR] 2022). White-tailed kite occurs in the herbaceous and open stages of most habitats in cismontane California. This species is rarely found away from agricultural areas and forages in undisturbed, open grasslands, meadows, farmlands, and emergent wetlands. White-tailed kite preys mostly on voles and other small, diurnal mammals, occasionally on birds, insects, reptiles, and amphibians (CWHR 2022). Substantial groves of dense, broad-leafed deciduous trees are used for nesting and roosting. Nests are made of loosely piled sticks and twigs and lined with grass, straw, or rootlets.

Nests are typically located near the top of dense oak, willow, or other tree stands from 20 to 100 feet above the ground and are often located near an open foraging area (CWHR 2022).

The many large oak trees in the BSA may provide potential nesting habitat for white-tailed kite; however, this species was not observed on-site during the field survey. Although marginally suitable foraging habitat may be present within adjacent areas of Del Paso Park, the remaining areas surrounding the BSA are largely urbanized developed and do not provide optimal foraging conditions for this species. Ten CNDDB occurrences of this species within 5 miles of the BSA; however, most of these occurrences are found along larger river systems adjacent to agricultural field and undisturbed grassland habitat suitable for foraging (CDFW 2022a). Given the presence of more suitable habitat for this species in the vicinity of the BSA, and based on the above information, white-tailed kite is unlikely to occur within the BSA.

6.1.2.2 PURPLE MARTIN

Purple martin is a CDFW SSC (CDFW 2022c) that is a summer resident in North America. The wintering grounds of this species are savannas and agricultural fields in Bolivia, Brazil, and elsewhere in South America (Audubon 2022).

Purple martin nests are often within woodpecker holes in mountain forests or woodlands; in low-elevation coniferous forest of Douglas fir (*Pseudotsuga menziesii*), ponderosa pine (*Pinus ponderosa*), and Monterey pine (*Pinus radiata*); and located in tall, isolated trees and snags. (CDFW 2022a). Purple martin readily nests in birdhouses, as well as gourds, dead trees, saguaro cactus, buildings, cliffs, and sometimes in other structures like traffic lights, streetlamps, dock pilings, or oil pumps. This species forages over towns, cities, parks, open fields, dunes, streams, wet meadows, beaver ponds, and other open areas (Audubon 2022).

There are three CNDDB occurrences within 5 miles of the BSA (CDFW 2022a). The many large oak trees in the BSA may provide potential nesting habitat for purple martin. This species was not observed on-site during the field survey. Based on the above information, purple martin is likely to occur within the BSA.

6.1.2.3 SWAINSON'S HAWK

Swainson's hawk is a state threatened species (CDFW 2022c) that occurs primarily as a spring and summer resident in California. In the autumn, this species migrates to South America for the winter. Swainson's hawk is typically found in open desert habitat, grassland habitat, or cropland containing scattered, large trees or small groves. Swainson's hawk typically hunts for small mammals and reptiles by flying over open habitat and scanning the ground but will also catch insects in flight. Individuals will typically roost in large trees adjacent to open habitats but will also roost on the ground if there are no trees available. Swainson's hawk will often nest peripheral to riparian systems but will also use lone trees in agricultural fields or pastures and roadside trees when available and adjacent to suitable foraging habitat (Audubon 2022). In the Central Valley, Swainson's hawk usually nests in large native trees such as valley oak (*Quercus lobata*), cottonwood (*Populus fremontii*), walnut (*Juglans hindsii*), and willow (*Salix* spp.), and occasionally in nonnative trees such as eucalyptus (*Eucalyptus* spp.).

Suitable large oak trees for nesting are present within the BSA; however, the BSA does not contain suitable foraging habitat for this species. Although marginally suitable foraging habitat may present within adjacent areas of Del Paso Park, the remaining areas surrounding the BSA are largely urbanized developed and do not provide optimal foraging conditions for this species. Five CNDDB occurrences of this species have been recorded within 5 miles of the BSA; however, most of these occurrences are located along large river systems in proximity to agricultural areas and undisturbed grassland habitat

(CDFW 2022a). Given the presence of more suitable habitat for this species within the vicinity of the BSA, Swainson's hawk is unlikely to occur within the BSA.

6.2 Nesting Migratory Birds/Raptors

The BSA contains suitable nesting and foraging habitat for avian species protected under the MBTA and CFGC Sections 3503 and 3513 during the typical nesting season (February 15–September 15). Suitable nesting and forging habitats would include the grassland areas, shrubs, and trees within and adjacent to the project laydown area. Nesting is unlikely outside of the typical nesting season, although some avian species may forage year-round near the site. SWCA biologists reviewed bird observation data from eBird (Cornell Lab of Ornithology 2023) (see Appendix B) to determine which species have potential to occur on-site. Avian species protected by the MBTA and CFGC that were observed in the BSA during the August 2022 field survey included:

- California scrub jay (*Aphelocoma californica*)
- Oak titmouse (*Baeolophus inornatus*)
- Cedar waxwing (*Bombycilla cedrorum*)
- Anna's hummingbird (*Calypte anna*)
- Northern flicker (*Colaptes auratus*)
- House finch (*Haemorhous mexicanus*)
- Wild turkey (*Meleagris gallopavo*)
- Yellow-billed magpie (*Pica nutalli*)
- Black phoebe (*Sayornis nigricans*)
- Yellow-rumped warbler (*Setophaga coronata*)
- Lesser goldfinch (*Spinus psaltria*)

Several yellow-billed magpie nests were observed within the light poles and large oak trees surrounding the baseball field that cover much of the BSA.

6.3 Critical Habitat

No critical habitat occurs within the BSA.

6.4 Natural Communities and Other Land Covers

6.4.1 *Natural and Semi-Natural Communities*

6.4.1.1 NONNATIVE GRASSLAND

Nonnative Annual Grassland is the most widespread natural community within BSA, covering 6.80 acres (see Appendix A: Figure 5). This community is not strictly a naturally occurring community as it is dominated by nonnative turf grasses (likely deliberately planted) such as Bermuda grass (*Cynodon dactylon*), annual bluegrass (*Poa annua*), and Kentucky bluegrass (*P. pratensis*). Other nonnative grasses present included slender wild oat (*Avena barbata*), ripgut grass (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), red brome (*Bromus madritensis* ssp. *rubens*), bristly dogstail grass (*Cynosurus echinatus*),

and crabgrass (*Digitaria sanguinalis*). Many nonnative herbaceous species common in ruderal habitats are also present in this community, including redstem filaree (*Erodium cicutarium*), ribwort (*Plantago lanceolata*), yellow star thistle (*Centaurea solstitialis*), stinkwort (*Dittrichia graveolens*), prickly lettuce (*Lactuca serriola*), Canada horseweed (*Erigeron canadensis*), Turkey-mullein (*Croton setiger*), rose clover (*Trifolium hirtum*), and horse nettle (*Solanum elaeagnifolium*). Isolated trees included some native oaks, and exotic ornamental trees are in this community. Much of the vegetation in this community shows evidence of regular disturbance from mowing. This community meets one or more of the membership rules for the *Cynodon dactylon – Crypsis* spp. – *Paspalum* spp. Herbaceous Semi-Natural Alliance (CNPS 2022). However, it is worth noting that *Crypsis* and *Paspalum* are absent in this community. This community does not have a California State Rarity Rank owing to the dominance of nonnative species in this community (CDFW 2022b).

6.4.1.2 VALLEY OAK WOODLAND

Approximately 0.72 acre (31,363 square feet) of Valley Oak Woodland occurs along the eastern edge of the BSA (see Appendix A: Figure 5). The canopy of this community ranges from continuous to open. Valley oak is dominant in the tree canopy with interior live oak (*Quercus wislizeni*) also present at lower densities. The shrub layer is sparse to open with the understory being dominated by nonnative grasses such as wild oat, bristly dog tail grass, and various species of brome (*Bromus* sp.) grass, as well as herbaceous species such as yellow star thistle. Much of the understory vegetation in this community shows evidence of regular vegetation management, including mowing. This community meets one or more of the membership rules for the *Quercus lobata* Woodland Alliance (CNPS 2022). Vegetation in this community may be further classified as the *Quercus lobata* / grass Association, which has a California State Rarity Rank of S3 (CDFW 2022b). Valley Oak Woodland occurs within valley bottoms and summit valleys with gentle to somewhat steep slopes as well ridgetops. This community thrives within various soil textures, including loams and clays (CNPS 2022). This is a sensitive natural community.

6.4.1.3 VALLEY OAK RIPARIAN WOODLAND

Approximately 1.04 acres of Valley Oak Riparian Woodland occurs along the northern and western edge of the BSA (see Appendix A: Figure 5). The tree canopy of this community is continuous and dominated by valley oak; however, other native tree species, including interior live oak, coast live oak (*Quercus agrifolia*), white alder (*Alnus rhombifolia*), Modesto ash (*Fraxinus velutina*), and Goodding's black willow (*Salix gooddingii*), are present in the tree canopy at lower densities. Nonnative trees, including edible fig (*Ficus carica*) and Chinese elm (*Ulmus parvifolia*), are also present. Much of the understory vegetation in this community shows evidence of regular vegetation management. The understory vegetation present mostly occurs closer to the banks of Arcade Creek and included species such as Himalayan blackberry (*Rubus armeniacus*), poison oak (*Toxicodendron diversilobum*), and California wild grape (*Vitis californica*), as well as grasses such as rabbitsfoot grass (*Polypogon monspeliensis*), Italian rye grass (*Festuca perennis*), and Johnsongrass (*Sorghum halepense*). This community meets one or more of the membership rules for the *Quercus lobata* Riparian Forest & Woodland Alliance (CNPS 2022). Vegetation in this community may be further classified as the *Quercus lobata – Quercus wislizeni* Association, which has a California State Rarity Rank of S3 (CDFW 2022b). Valley Oak Riparian Woodland occurs within valley bottoms, floodplains, creeks, and stream terraces that have seasonally saturated soils and may be intermittently flooded (CNPS 2022). This is a sensitive riparian community.

6.4.1.4 ORNAMENTAL WOODLAND

Ornamental Woodland is not a naturally occurring community but is a vegetation community characterized by a mix of exotic ornamental and native plant species, which is often associated with residential or commercial development. Vegetation density, canopy cover, and species composition will

vary based on purpose and/or design. Such vegetation is often deliberately planted to provide shade and/or aesthetic value, Approximately 1.22 acres of Ornamental Woodland are present in the BSA. The tree species that comprise this community consist of exotics cultivars such as London plane tree (*Platanus x hispanica*), Callery pear (*Pyrus calleryana*), and Idaho locust (*Robinia x ambigua*), as well as native oaks and Modesto ash. This community does not have a California State Rarity Rank owing to the dominance of nonnative species in this community (CDFW 2022b).

6.4.2 *Other Habitats/Land Covers*

6.4.2.1 URBAN/DEVELOPED

The BSA contains approximately 3.09 acres of urban/developed cover type. Disturbed/developed areas are generally characterized by residential or commercial development. Within the BSA, disturbed/developed cover types are paved, graveled, or otherwise covered by humanmade structures. This cover type lacks any vegetation cover, aside from sparse ruderals, and does not support special-status species due to the high level of disturbance and human activity (see Appendix A: Figure 5).

6.5 Essential Fish Habitat

There is no designated essential fish habitat within the BSA.

6.6 Wetlands/Waters

The BSA does not contain any wetlands or waters that could potentially be considered jurisdictional by the USACE, RWQCB or CDFW. However, the BSA contains a sliver of Valley Oak Riparian Woodland along its northern boundary bordering Arcade Creek. Additionally, the BSA borders Owl Creek to the west, which is a tributary to Arcade Creek. Arcade and Owl Creeks are likely jurisdictional WOTUS and waters of the state; therefore, impacts to riparian habitat associated with these features would likely be regulated by the CDFW pursuant to CFGC Sections 1600 through 1607, as described in Section 4.2.4.

6.7 Migratory Corridors

A wildlife corridor is a linear landscape element that serves as a linkage between historically connected habitats or landscapes that are otherwise separated (McEuen 1993) and is meant to provide avenues along which wildlife can travel, migrate, and meet mates; plants can propagate; genetic interchange can occur; and populations can move in response to environmental changes and natural disasters (Beier and Loe 1992). Much of the BSA consist of open fields, paved walkways, and asphalt parking areas that provide little to no cover for terrestrial wildlife. The northern boundary of the BSA intersects the southern edge of the riparian corridor associated with Arcade Creek. This riparian corridor may facilitate the movement of terrestrial and aquatic wildlife. Additionally, the BSA is bordered by oak woodland to the east and by Auburn Boulevard to the south. Other than the wooded areas along its northern and eastern boundaries, the BSA itself contains little valuable habitat that could facilitate movement. Therefore, the BSA does not provide a migratory connection to nearby continuous suitable habitat.

6.8 Protected Trees

An arborist report was prepared for the BSA in November 2022 (Dudek 2023; Appendix F). According to the arborist report, a total of 111 trees are located within or immediately adjacent to the BSA. All 111 trees found within the project area meet the City's criteria for a "City Tree" as defined in Section

12.56.020 of the Sacramento City Code. The City's Municipal Code protects all trees where the trunk is either wholly or partially located on City property or City right-of-way as a "City Tree" (City of Sacramento 2016). Table 1 summarizes the City Trees present within the BSA.

Table 1. BSA Tree Species Composition

Scientific Name	Common Name	Number of Trees
Ailanthus altissima	Tree of heaven	2
Fraxinus velutina 'Modesto'	Modesto ash	6
Gleditsia triacanthos	Honey locust	1
Platanus x hispanica	London plane tree	18
Pyrus calleryana	Callery pear	7
Quercus agrifolia	Coast live oak	7
Quercus lobata	Valley oak	54
Quercus wislizeni	Interior live oak	10
Robinia x ambigua 'Idahoensis'	Idaho locust	5
Washingtonia robusta	Mexican fan palm	1
Total		**111**

Note: X = hybrid cultivar

7 DISCUSSION

7.1 Impacts to Nesting Birds

The oak woodland habitat, many ornamental trees, and light poles present within the BSA all provide suitable nesting habitat for bird species protected under the MBTA and CFGC, including potentially special-status bird species such as white-tailed kite, purple martin and (though unlikely), and Swainson's hawk.

As mentioned, in Section 6.2, several yellow-billed magpie nests were observed within the light poles and large oak trees surrounding the baseball field that covers much of the BSA. A 2021 study found that Renfree Field and Del Paso Park support several yellow-billed magpie colonies and provide nesting and foraging habitat crucial to the local yellow-billed magpie population within the greater Sacramento region (Airola et. al. 2021). Yellow-billed magpies are known to often reuse nests from previous years, especially for within-season re-nesting attempts (Verbeek 1973). Therefore, there is high potential that some if not all these nests may be reoccupied during the next nesting season (February 15–September 15).

Other bird species protected under the MBTA, such as killdeer (*Charadrius vociferus*) and mourning dove (*Zenaida macroura*), are known to nest on the ground, even in disturbed areas which are also present within the BSA. If construction occurs during the nesting season, then the project may have the potential to impact these nesting birds without implementation of restrictive mitigation measures.

7.2 Sensitive Natural Community Impacts

As discussed in Section 6.4, the BSA contains approximately 0.72 acre of Valley Oak Woodland and 1.04 acres of Valley Oak Riparian Woodland. Both of these communities are considered sensitive by the

CDFW (CDFW 2022b). Based on current project designs, the project is unlikely to impact these communities.

The canopies of three large individual valley oaks located north of Renfree Field overlap with the project footprint, totaling 1,742 square feet (see Appendix A: Figure 5). However, impacts to these native oaks would be low to moderate and these trees are expected to survive development (see Section 7.3) with the implementation of tree protective measures recommended by the arborist report (Dudek 2023); these measures are discussed further in Section 8.3. Therefore, no further actions are recommended.

7.3 Protected Tree Impacts

According to the arborist report, the proposed project activities will impact approximately 56 of the 111 City Trees present within the BSA. Table 2 lists the anticipated tree impacts to project site trees by species. Further details regarding tree impacts can be found in the arborist report (see Appendix F).

Table 2. Project Tree Impacts by Tree Species

Scientific Name	Common Name	Number of Trees	High Impact	Moderate Impact	Low Impact	No Impact
Ailanthus altissima	Tree of heaven	2	0	2	0	0
Fraxinus velutina 'Modesto'	Modesto ash	6	0	5	0	1
Gleditsia triacanthos	Honey locust	1	0	0	0	1
Platanus x *hispanica*	London plane tree	18	7	5	0	6
Pyrus calleryana	Callery pear	7	1	1	3	2
Quercus agrifolia	Coast live oak	7	0	1	1	5
Quercus lobata	Valley oak	54	0	10	11	33
Quercus wislizeni	Interior live oak	10	0	2	1	7
Robinia × ambigua 'Idahoensis'	Idaho locust	5	5	0	0	0
Washingtonia filifera	Mexican fan palm	1	0	1	0	0
Total		**111**	**13**	**27**	**16**	**55**

Note: “x” = hybrid cultivar

The arborist report classifies impacts to trees as high, moderate, low, or no impact. There are 13 trees classified as having high construction impacts. These trees are those with the trunk located inside or within 5 feet of the proposed development footprint and/or are in poor health that would make it unlikely that the tree would survive the development process and therefore will be removed. Trees present within the development footprint with high construction impacts include the two rows of London plane trees and oak trees located between the existing ballfield and parking lot.

Trees classified as having moderate or low impacts include trees located adjacent to the proposed development or to existing improvements that will be demolished. Construction is anticipated to occur within the Tree Protection Zone (TPZ) (the area around a tree within the outermost circumference of the canopy) and is expected to result in disturbance to the soil and roots or disturbance to the tree crown. However, these trees are expected to survive and be incorporated into the new park facilities. The 27 trees classified as having moderate construction impacts include the trees located immediately north and south of the existing ballfield, up to half of the TPZ on these trees could be impacted by the demolition of the existing ballfield facilities and the construction of the new facilities.

The 16 trees classified as having low construction impacts include the oak trees around the perimeter of the field west of Bridge Road; only minor grading is being proposed within the TPZ of these trees and no development is anticipated to occur.

The 55 trees classified as having no impact are those trees that are located within the BSA boundaries but are not anticipated to be affected by project development.

The arborist report recommends that 30 trees within the BSA be removed due to either poor health, structural defects that have potential to become hazardous, or being located within the development footprint. Of the 30 trees recommended for removal, 13 are located within the project footprint and would not likely survive development of the project; the remaining 17 trees are located outside the project footprint. Justification for the removal is required for any City Tree that is 4 inches in diameter or larger at diameter at standard height (DSH). 29 of the 30 trees identified for removal have a diameter greater than 4 inches DSH (City of Sacramento 2016). However, the City has determined that only 21 trees would need to be removed to accommodate the proposed project. The removal of these 21 trees will require the City to submit public notice prior to removing any of these trees and will require that the City plant replacement trees to mitigate the loss of the removed trees.

The Director of the Department of Parks and Recreation is ultimately responsible for deciding mitigations; however, the City Code requires the City to plant replacement trees at either a 1 tree to 1 tree ratio or an inch for inch ratio (City of Sacramento 2016). Therefore, the City will need to plant at least 21 replacement trees or a number of trees with a total DSH equal to the 21 trees removed in order to accommodate the project. Additionally, the City will need to obtain a permit in order to perform construction activities within the TPZ of 33 trees that will be subject to low to moderate impacts by the project.

The remaining 90 City Trees present within the BSA can be preserved provided that protective measures are installed for the trees near the development footprint to prevent these trees from being damaged by construction activities. To prevent damage to trees identified for preservation, the arborist report recommends that the City install protective measures around these trees, including protective fencing and signage to prevent construction storage or parking from occurring within their TPZ. As mentioned above, construction is expected to occur within the TPZ of 33 trees. These trees are anticipated to experience low or moderate impacts as result of the project development and may require trimming and/or root pruning to prevent unnecessary damage to the tree during project development. Section 6.3 of the attached arborist report describes these recommended protective measures in greater detail (see Appendix F).

8 AVOIDANCE AND MINIMIZATION MEASURES

The following Avoidance and Minimization Measures (AMMs) are recommended to reduce or eliminate potentially significant biological impacts resulting from the project.

8.1 General Measures

The following AMMs are recommended in addition to the measures specified in the Arborist Report to minimize impacts to sensitive habitats:

MM BIO-1: **Minimize Disturbance.** Travel and parking of vehicles and equipment will be limited to pavement, existing roads, and previously disturbed areas. Ground disturbance and vegetation removal will not exceed the minimum amount necessary to complete work at the site.

8.2 Species-Specific Measures

The following AMMs are recommended to minimize impacts to nesting birds:

MM BIO-2: Nesting Birds.

a. If construction begins outside the February 1 to August 31 breeding season, there will be no need to conduct a preconstruction survey for active bird nests.

b. If construction will begin during nesting bird season (February 1–August 31), then a preconstruction survey for protected nesting birds shall be conducted by a qualified biologist.

c. The preconstruction survey shall be conducted within 7 days prior to the start of construction. The survey shall cover the project site and areas within 500 feet for birds-of-prey and within 100 feet for other (non-bird-of-prey) nests. Inaccessible areas and private lands shall be surveyed from accessible (public) areas with binoculars.

   i. If no active nest of a bird of prey, MBTA bird, or other CDFW-protected bird is found, then no further AMMs are necessary.

   ii. If active nests are found, they shall be avoided and protected as follows: If a bird-of-prey nest is found, a 500-foot-radius Environmentally Sensitive Area (ESA) shall be established around the nest.

   iii. If an active nest of another (non-bird-of-prey) bird is found, a 100-foot-radius ESA shall be established around the nest.

d. Between February 1 and August 31, if additional vegetation removal is required after construction has started, a survey will be conducted for active nests in the area to be affected.

e. If a 15-day lapse in construction work occurs during the nesting season, then another preconstruction survey shall be conducted prior to the resumption of work. If an active nest is found, the above measures will be implemented.

8.3 Protected Trees

As stated in Section 7.3, the proposed project is anticipated to require the removal 21 trees and result in low to moderate impacts to a further 33 trees in order to accommodate the proposed project. The following AMMs are recommended in order to offset and minimize impacts to City Trees:

MM BIO-3: Tree Removal and Replacement Requirements.

a. Prior to the removal or commencement of construction activities within the TPZ of any City Trees, the City shall submit public notice. The City shall provide justification for the removal of trees that measure 4 inches in diameter or greater at DSH.

b. The project applicant shall plant the required number of replacement trees as determined by the Director of the City Department of Parks and Recreation.

MM BIO-4: **Tree Protection Measures.** In order to minimize and avoid damage to the 90 City Trees identified for preservation; the City shall install/implement protective measures as described in Section 6.3 of the arborist report.

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APPENDIX A

Figures

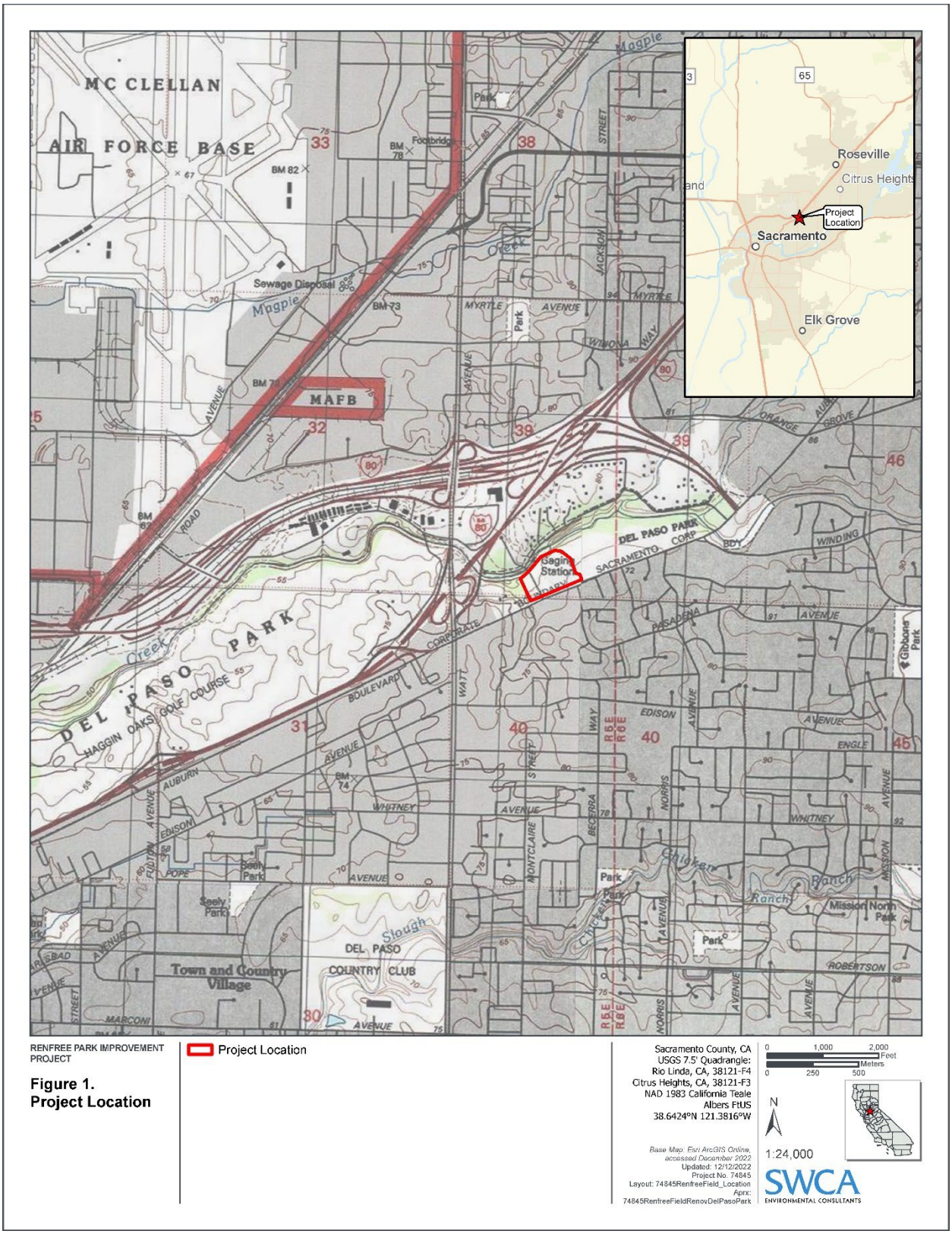


Figure 1. Project location map.



Figure 2. Aerial photograph.

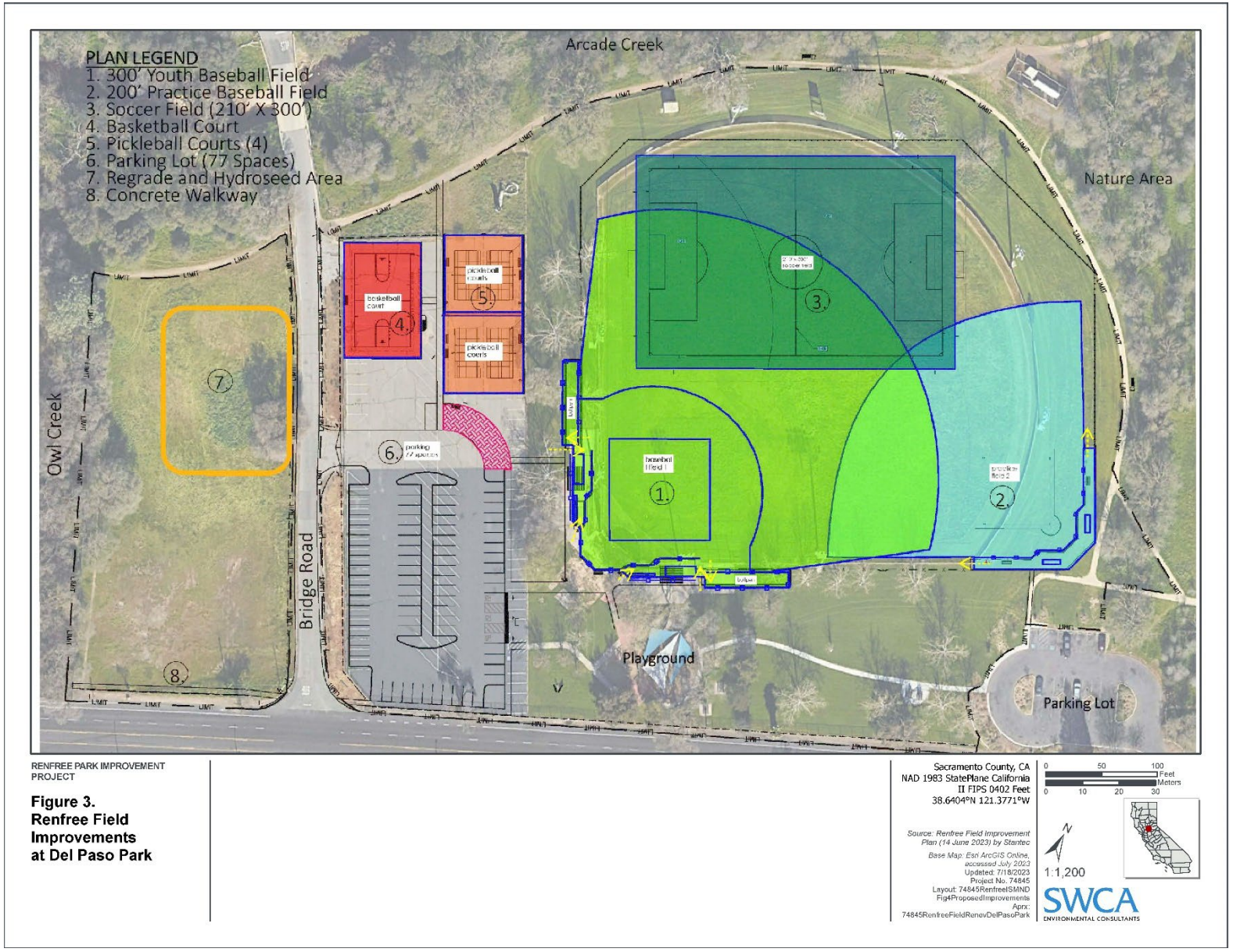


Figure 3. Renfree Field Improvements at Del Paso Park.



Figure 4. Soils map.

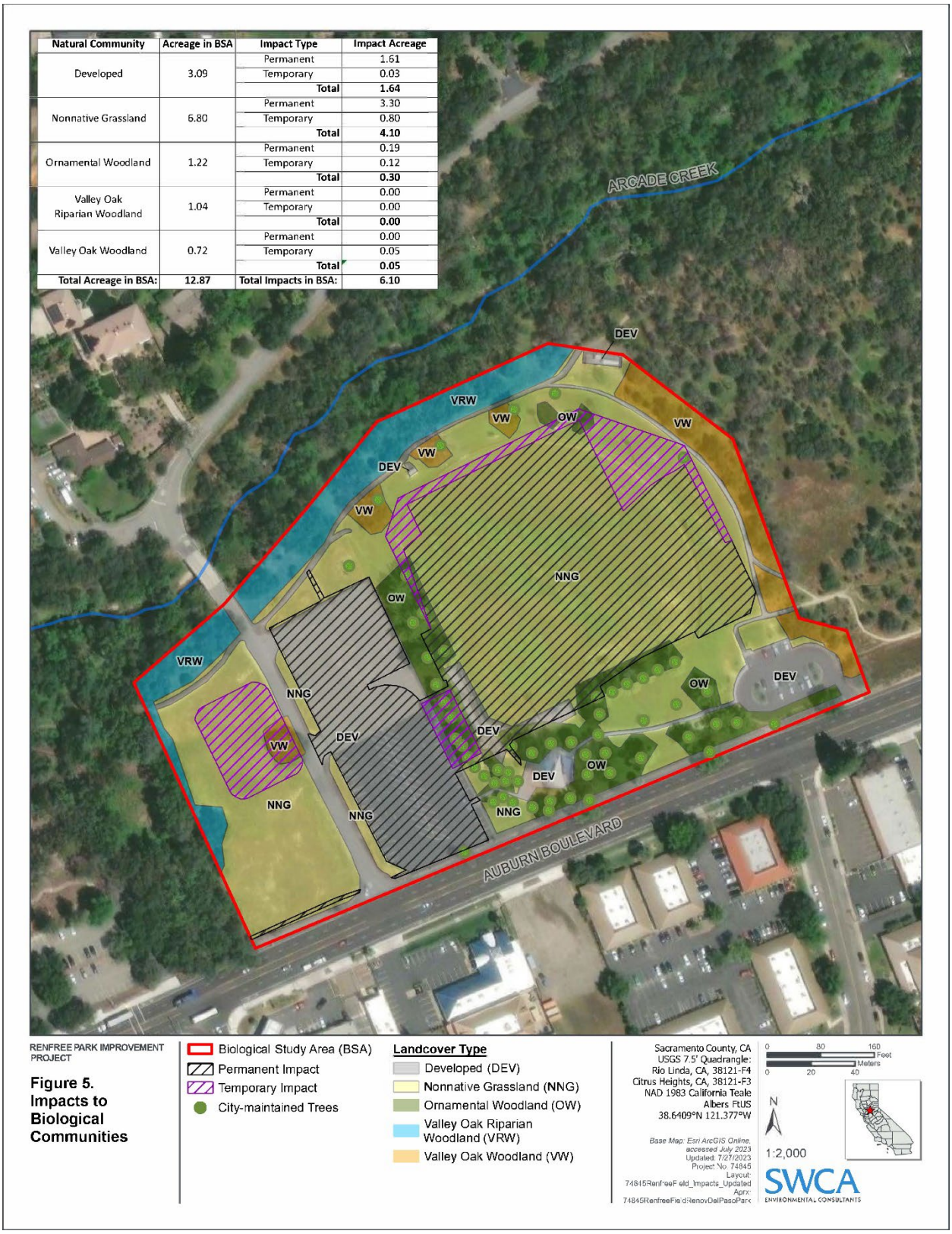


Figure 5. Impacts to biological communities.

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APPENDIX B

USFWS Species List, CNDDB Summary Report, CNPS Inventory Query, and eBird Bird Observation Data

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

Sacramento County, California



Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

NOT FOR CONSULTATION

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Amphibians

NAME	STATUS
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS

NOT FOR CONSULTATION

Vernal Pool Fairy Shrimp Branchinecta lynchi — Threatened
Wherever found
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/498

Vernal Pool Tadpole Shrimp Lepidurus packardi — Endangered
Wherever found
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/2246

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

NOT FOR CONSULTATION

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NOT FOR CONSULTATION

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow *Passerculus sandwichensis beldingi* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Black Swift *Cypseloides niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10
Black Tern *Chlidonias niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20

Bullock's Oriole Icterus bullockii — Breeds Mar 21 to Jul 25
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

California Gull Larus californicus — Breeds Mar 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — Breeds Jun 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Marbled Godwit Limosa fedoa — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

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Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Western Grebe aechmophorus occidentalis — Breeds Jun 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/6743

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

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Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

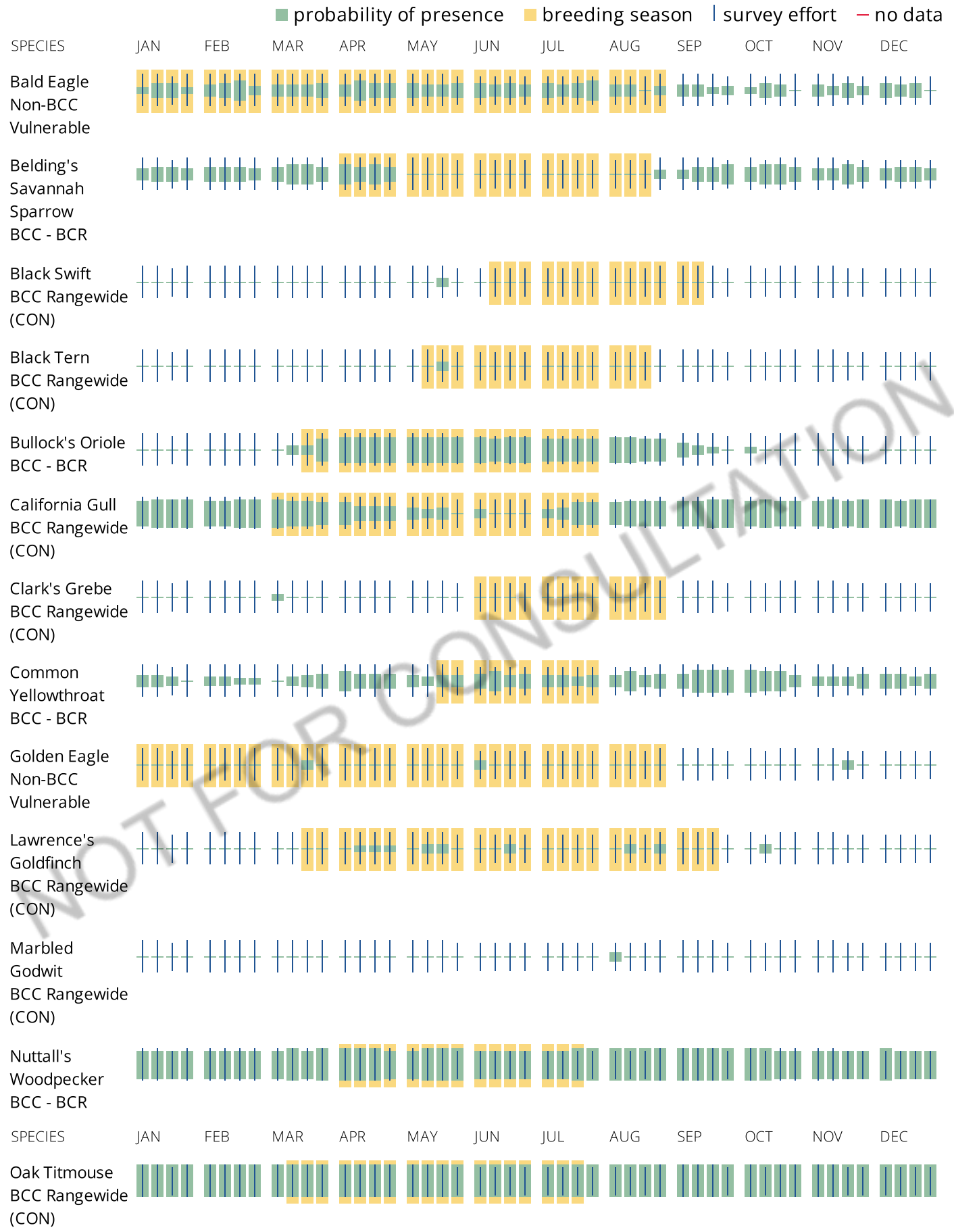
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

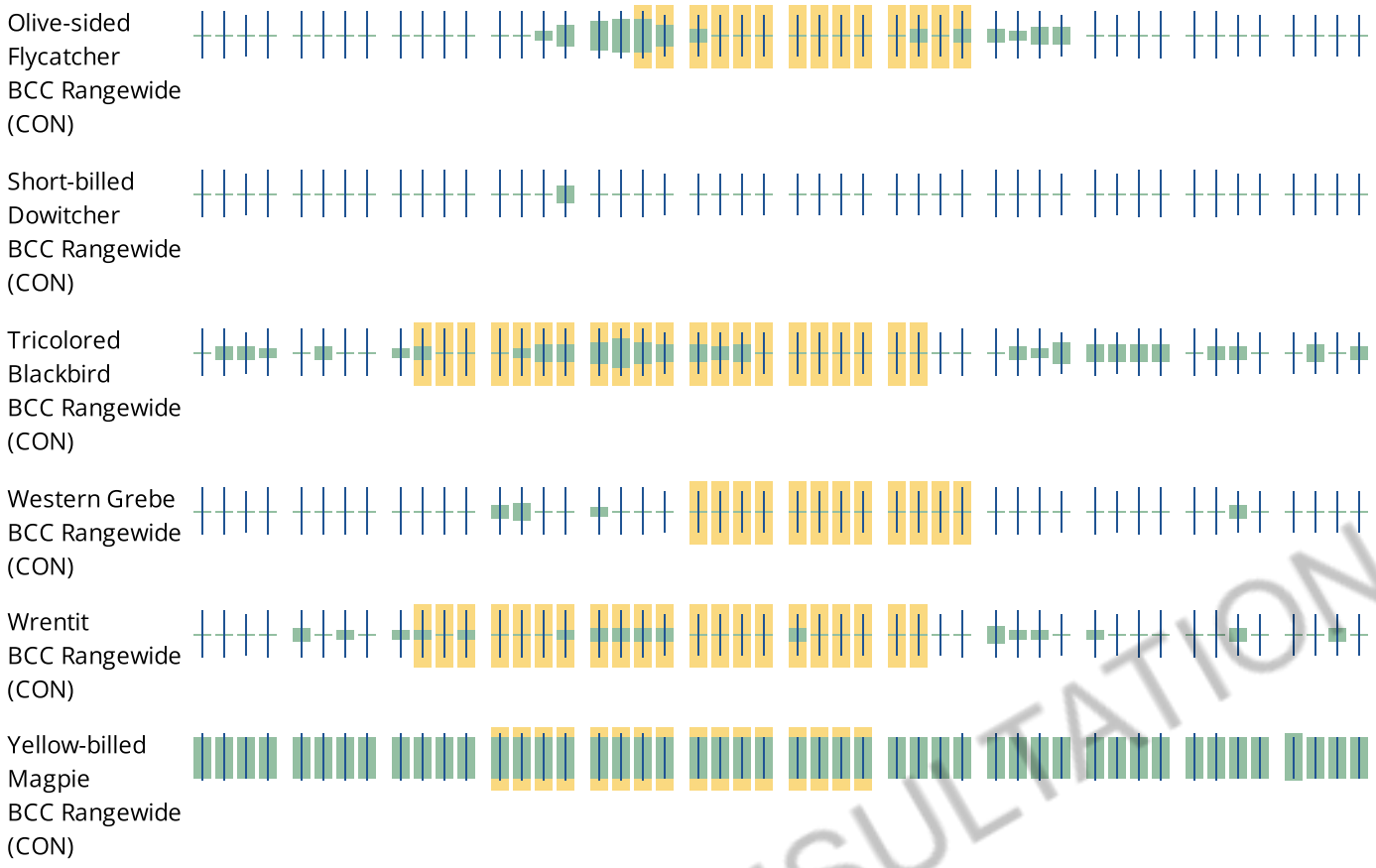
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

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Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be

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helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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Coastal Barrier Resources System

Projects within the John H. Chafee Coastal Barrier Resources System (CBRS) may be subject to the restrictions on Federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local Ecological Services Field Office or visit the CBRA Consultations website. The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

There are no known coastal barriers at this location.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the official CBRS maps. The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies

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concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Citrus Heights (3812163) OR Roseville (3812173) OR Carmichael (3812153) OR Sacramento West (3812155) OR Taylor Monument (3812165) OR Rio Linda (3812164) OR Pleasant Grove (3812174) OR Verona (3812175) OR Sacramento East (3812154))
 AND Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects OR Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes OR Fungi)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Acipenser medirostris pop. 1 green sturgeon - southern DPS	AFCAA01031	Threatened	None	G2T1	S1	
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
Andrena subapasta An andrenid bee	IIHYM35210	None	None	G1G2	S1S2	
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Archoplites interruptus Sacramento perch	AFCQB07010	None	None	G1	S1	SSC
Ardea alba great egret	ABNGA04040	None	None	G5	S4	
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Astragalus tener var. ferrisiae Ferris' milk-vetch	PDFAB0F8R3	None	None	G2T1	S1	1B.1
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Balsamorhiza macrolepis big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
Buteo regalis ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Chloropyron molle ssp. hispidum hispid salty bird's-beak	PDSCR0J0D1	None	None	G2T1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Cicindela hirticollis abrupta Sacramento Valley tiger beetle	IICOL02106	None	None	G5TH	SH	
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2T3	S3	
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
Dumontia oregonensis hairy water flea	ICBRA23010	None	None	G1G3	S1	
Egretta thula snowy egret	ABNGA06030	None	None	G5	S4	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Fritillaria agrestis stinkbells	PMLIL0V010	None	None	G3	S3	4.2
Gonidea angulata western ridged mussel	IMBIV19010	None	None	G3	S1S2	
Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Hydrochara rickseckeri Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
Juncus leiospermus var. ahartii Ahart's dwarf rush	PMJUN011L1	None	None	G2T1	S1	1B.2
Juncus leiospermus var. leiospermus Red Bluff dwarf rush	PMJUN011L2	None	None	G2T2	S2	1B.1
Lasiurus cinereus hoary bat	AMACC05030	None	None	G3G4	S4	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3T1	S1	FP
Legenere limosa legenere	PDCAM0C010	None	None	G2	S2	1B.1
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Melospiza melodia pop. 1 song sparrow ("Modesto" population)	ABPBXA3013	None	None	G5T3?Q	S3?	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Nycticorax nycticorax black-crowned night heron	ABNGA11010	None	None	G5	S4	
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Oncorhynchus tshawytscha pop. 11 chinook salmon - Central Valley spring-run ESU	AFCHA0205L	Threatened	Threatened	G5T2Q	S2	
Oncorhynchus tshawytscha pop. 7 chinook salmon - Sacramento River winter-run ESU	AFCHA0205B	Endangered	Endangered	G5T1Q	S2	
Orcuttia viscida Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	G1	S1	1B.1
Pogonichthys macrolepidotus Sacramento splittail	AFCJB34020	None	None	G3	S3	SSC
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sagittaria sanfordii Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
Spea hammondii western spadefoot	AAABF02020	None	None	G2G3	S3	SSC
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Vireo bellii pusillus least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	

Record Count: 53

CNPS Rare Plant Inventory

California Native Plant Society

Search Results

12 matches found. Click on scientific name for details

Search Criteria: CRPR is one of [1A:1B:2A:2B:3] , 9-Quad include [3812163:3812173:3812153:3812155:3812165:3812164:3812174:3812175:3812154]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	FED LIST	STATE LIST	STATE RANK	CA RARE PLANT RANK	GENERAL HABITATS	MICRO HABITATS	LOWEST ELEVATION (FT)	HIGHEST ELEVATION (FT)	BLOOMING PERIOD
Astragalus tener var. *ferrisiae*	Ferris' milk-vetch	Fabaceae	annual herb	None	None	S1	1B.1	Meadows and seeps, Valley and foothill grassland		5	245	Apr-May
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	None	None	S2	1B.2	Chaparral, Cismontane woodland, Valley and foothill grassland	Serpentinite (sometimes)	150	5100	Mar-Jun
Chloropyron molle ssp. *hispidum*	hispid salty bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	None	None	S1	1B.1	Meadows and seeps, Playas, Valley and foothill grassland	Alkaline	5	510	Jun-Sep
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	None	None	S2	2B.2	Valley and foothill grassland, Vernal pools		5	1460	Mar-May
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	None	CE	S2	1B.2	Marshes and swamps, Vernal pools	Clay	35	7790	Apr-Aug
Hibiscus lasiocarpos var. *occidentalis*	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	None	None	S3	1B.2	Marshes and swamps		0	395	Jun-Sep
Juncus leiospermus var. *ahartii*	Ahart's dwarf rush	Juncaceae	annual herb	None	None	S1	1B.2	Valley and foothill grassland		100	750	Mar-May
Juncus leiospermus var. *leiospermus*	Red Bluff dwarf rush	Juncaceae	annual herb	None	None	S2	1B.1	Chaparral, Cismontane woodland, Meadows and seeps, Valley and foothill grassland, Vernal pools	Vernally Mesic	115	4100	Mar-Jun

Legenere limosa	legenere	Campanulaceae	annual herb	None	None	S2	1B.1	Vernal pools	5	2885	Apr-Jun
Orcuttia viscida	Sacramento Orcutt grass	Poaceae	annual herb	FE	CE	S1	1B.1	Vernal pools	100	330	Apr-Jul(Sep)
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	None	None	S3	1B.2	Marshes and swamps	0	2135	May-Oct(Nov)
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	None	None	S2	1B.2	Marshes and swamps	0	10	(Apr)May-Nov

Showing 1 to 12 of 12 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website https://www.rareplants.cnps.org [accessed 5 December 2022].

« Start Over

Bird Observations

Date Range: Change Date
Jan-Dec, 1900-2023

Change Location **Del Paso Park**

Updated ~23 hr(s) ago.

117 species (+13 other taxa)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Graylag Goose												
Canada Goose												
Wood Duck												
Mallard												
California Quail												
Wild Turkey												
Ring-necked Pheasant												
Indian Peafowl												
Rock Pigeon												
Eurasian Collared-Dove												
Mourning Dove												
Vaux's Swift												
White-throated Swift												
Black-chinned Hummingbird												
Anna's Hummingbird												

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rufous/Allen's Hummingbird												
hummingbird sp.												
Sandhill Crane												
Killdeer												
California Gull												
gull sp.												
Double-crested Cormorant												
American White Pelican												
Great Blue Heron												
Great Egret												
Snowy Egret												
Green Heron												

117 species (+13 other taxa)

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Turkey Vulture

White-tailed Kite

Northern Harrier

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Sharp-shinned Hawk

Cooper's Hawk

Accipiter sp.

Bald Eagle

Red-shouldered Hawk

Swainson's Hawk

Red-tailed Hawk

Buteo sp.

Barn Owl

Western Screech-Owl

Great Horned Owl

Belted Kingfisher

Red-breasted Sapsucker

Red-naped x Red-breasted Sapsucker (hybrid)

Acorn Woodpecker

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Downy Woodpecker

Nuttall's Woodpecker

Northern Flicker

American Kestrel

Merlin

Olive-sided Flycatcher

Western Wood-Pewee

Willow Flycatcher

Pacific-slope Flycatcher

Pacific-slope/Cordilleran Flycatcher (Western Flycatcher)

Black Phoebe

Say's Phoebe

Ash-throated Flycatcher

Western Kingbird

Hutton's Vireo

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Cassin's Vireo

Warbling Vireo

California Scrub-Jay

117 species (+13 other taxa)



Yellow-billed Magpie
American Crow
Common Raven
Oak Titmouse
Northern Rough-winged Swallow
Tree Swallow
Barn Swallow
Cliff Swallow
swallow sp.
Bushtit
Wrentit
Ruby-crowned Kinglet



Red-breasted Nuthatch
White-breasted Nuthatch
Blue-gray Gnatcatcher
House Wren
Bewick's Wren
European Starling
Northern Mockingbird
Western Bluebird
Varied Thrush
Swainson's Thrush
Hermit Thrush
American Robin
Cedar Waxwing
House Sparrow
American Pipit



House Finch
Purple Finch
Pine Siskin
Lesser Goldfinch
American Goldfinch
new world goldfinch sp.
Chipping Sparrow
Lark Sparrow
Fox Sparrow
Dark-eyed Junco
White-crowned Sparrow

117 species (+13 other taxa)



Golden-crowned Sparrow

Zonotrichia sp.

Song Sparrow

Lincoln's Sparrow



California Towhee

Spotted Towhee

Western Meadowlark

Hooded Oriole

Bullock's Oriole

Tricolored Blackbird

Brown-headed Cowbird

Brewer's Blackbird

Orange-crowned Warbler

Nashville Warbler

MacGillivray's Warbler

Common Yellowthroat

Yellow Warbler

Chestnut-sided Warbler

Yellow-rumped Warbler



Black-throated Gray Warbler

Townsend's Warbler

Hermit Warbler

Setophaga sp.

Wilson's Warbler

new world warbler sp.

Western Tanager

Black-headed Grosbeak

Lazuli Bunting

passerine sp.

KEY: = insufficient data | = rare to widespread

Download Histogram Data

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APPENDIX C

Plant and Wildlife Species Observed Tables

Table C-1. Plant Species Observed

Family	Scientific Name[1]	Common Name	N/I[2]	Cal-IPC[3]
Dicots				
Anacardiaceae	*Toxicodendron diversilobum*	Poison oak	N	
Asteraceae	*Centaurea solstitialis*	Yellow star thistle	I	High
	Dittrichia graveolens	Stinkwort	I	Moderate
	Erigeron canadensis	Canada horseweed	N	
	Lactuca serriola	Prickly lettuce	I	
Betulaceae	*Alnus rhombifolia*	White alder	N	
Brassicaceae	*Croton setiger*	Turkey-mullein	N	
Fabaceae	*Gleditsia triacanthos*	Honeylocust	I	
	Robinia × ambigua 'Idahoensis'	Idaho Locust	I	
	Trifolium hirtum	Rose clover	I	Limited
Fagaceae	*Quercus agrifolia*	Coast Live Oak	N	
	Quercus lobata	Valley Oak	N	
	Quercus wislizeni	Interior Live Oak	N	
Geraniaceae	*Erodium cicutarium*	Redstem filaree	I	
Moraceae	*Ficus carica*	Edible fig	I	Moderate
Oleaceae	*Fraxinus velutina 'Modesto'*	Modesto Ash	N	
Platanaceae	*Platanus x hispanica*	London Plane Tree	I	
Plantaginaceae	*Plantago lanceolata*	Ribwort	I	Limited
Rosaceae	*Rubus armeniacus*	Himalayan blackberry	I	High
	Pyrus calleryana	Callery pear	I	
Salicaceae	*Salix gooddingii*	Goodding's black willow	N	
Simaroubaceae	*Ailanthus altissima*	Tree of Heaven	I	
Solanaceae	*Solanum elaeagnifolium*	Horse nettle	I	
Ulmaceae	*Ulmus parvifolia*	Chinese Elm	I	
Vitaceae	*Vitis californica*	California wild grape	N	
Monocots				
Arecaceae	*Washingtonia robusta*	Mexican fan palm	I	
Poaceae	*Avena barbuta*	Wild oat	I	Moderate
	Bromus diandrus	Ripgut brome	I	Moderate
	Bromus hordeaceus.	Soft brome	I	Limited
	Bromus rubens	Red brome	I	High
	Cynodon dactylon	Bermuda grass	I	Moderate
	Cynosurus echinatus	Bristly dogstail grass	I	Moderate
	Digitaria sanguinalis	Crabgrass	I	
	Festuca perennis	Italian ryegrass	I	Moderate
	Poa annua	Annual bluegrass	I	

Family	Scientific Name[1]	Common Name	N/I[2]	Cal-IPC[3]
	Poa pratensis	Kentucky bluegrass	I	Limited
	Polypogon monspeliensis	Rabbitsfoot grass	N	
	Sorghum halepense	Johnsongrass	I	

[1] Nomenclature and taxonomy follow *The Jepson Manual: Vascular Plants of California,* 2nd ed. (Baldwin et al. 2012).

[2] N = Native to California; I = Introduced.

[3] Negative ecological impact ranking by the California Invasive Plant Council (Cal-IPC 2018).

Table C-2. Wildlife Species Observed

Scientific Name	Common Name	N/I
Birds		
Aphelocoma californica	California scrub jay	N
Baeolophus inornatus	Oak titmouse	N
Bombycilla cedrorum	Cedar waxwing	N
Calypte anna	Anna's hummingbird	N
Colaptes auratus	Northern flicker	N
Haemorhous mexicanus	House finch	N
Meleagris gallopavo	Wild turkey	N
Pica nutalli	Yellow-billed magpie	N
Sayornis nigricans	Black phoebe	N
Setophaga coronata	Yellow-rumped warbler	N
Spinus psaltria	Lesser goldfinch	N
Sturnus vulgaris	European starling	I

* Species not directly observed but evidence of presence within BSA evident by feathers, nests, pellets, burrows, or scat.

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APPENDIX D

Site Photographs



Photo D-1. View looking northwest from intersection of Auburn Boulevard and Bridge Road.



Photo D-2. View looking north from southwest corner of BSA.



Photo D-3. View looking northeast from Bridge Road along trail north of Renfree Field.



Photo D-4. View looking southwest from northeast corner of BSA along trail north of Renfree Field.



Photo D-5. View looking east from northeast corner of BSA along trail north of Renfree Field.



Photo D-6. View looking northwest along trail east of Renfree Field.



Photo D-7. View looking east at parking lot near southeast corner of BSA.



Photo D-8. View looking southwest from southern fence of Renfree Field.



Photo D-9. View looking northeast at playground from parking lot east of Bridge Road.



Photo D-10. View looking northwest from southeast corner of parking lot, east of Bridge Road.



Photo D-11. View looking north–northwest from interior of Renfree Field.



Photo D-12. View looking northeast from intersection of Auburn Boulevard and Bridge Road.



Photo D-13. View looking east at parking lot and Renfree Field from Bridge Road.

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APPENDIX E

Special-Status Species Evaluation Tables

Table E-1. Evaluation of Special-Status Plant Species with Potential to Occur

Special-Status Species Common Name	Federal Status	State Status/ CRPR	Habitat Requirements	Potential to Occur in the Biological Survey Area
Astragalus tener var. ferrisiae Ferris' milk vetch	--	--/1B.1	Annual herb found in meadows, seeps, valley and foothill grassland from 5 to 245 feet. Known from Butte, Colusa, Glenn, Solano, Sutter, Yolo, and Yuba Counties (CNPS 2022). Blooms April through May (CNPS 2022; UCB 2022).	**No potential.** The BSA does not contain suitable mesic grassland habitat. There are no CNDDB records of this species in or adjacent to the BSA.
Balsamorhiza macrolepis big-scale balsamroot	--	--/1B.2	Perennial herb found in chaparral, cismontane woodland, and valley and foothill grassland, sometimes on serpentine soils from 150 to 5,100 feet. Known from Alameda, Amador, Butte, Colusa, El Dorado, Lake, Mariposa, Napa, Placer, Santa Clara, Shasta, Solano, Sonoma, Tehama, and Tuolumne Counties (CNPS 2022). Blooms March through June (CNPS 2022); March through July (UCB 2022). Habitat also described as "open grassy or rocky slopes, valleys" (UCB 2022).	**No potential.** Although the BSA does contain suitable woodland habitat, the BSA is below the known elevation range of this species, lacks serpentine soils, and has not been previously documented in Sacramento County. There are no CNDDB records of this species in or adjacent to the BSA.
Chloropyron molle ssp. hispidum hispid salty bird's-beak	--	--/1B.1	Annual herb found at alkaline areas of meadows, seeps, playas, and valley and foothill grassland from 5 to 510 feet. Known from Alameda, Kern, Merced, Placer, and Solano Counties (CNPS 2022). Blooms June through September (CNPS 2022; UCB 2022).	**No potential.** The BSA does not contain suitable alkaline mesic grassland habitat. There are no CNDDB records of this species in or adjacent to the BSA.
Downingia pusilla dwarf downingia	--	--/2B.2	Annual herb found in valley and foothill grassland and vernal pools from 5 to 1,460 feet. Known from Fresno, Merced, Napa, Placer, Sacramento, San Joaquin, Solano, Sonoma, Stanislaus, Tehama, and Yuba Counties (CNPS 2022). Blooms March through May (CNPS 2022; UCB 2022).	**No potential.** The BSA does not contain suitable grassland or vernal pool habitat. There are no CNDDB records of this species in or adjacent to the BSA.
Gratiola heterosepala Boggs Lake hedge-hyssop	--	--/1B.2	Annual herb found in marshes, swamps, and vernal pools from 35 to 7,790 feet. Know from Fresno, Lake, Lassen, Madera, Mendocino, Merced, Modoc, Placer, Sacramento, San Joaquin, Shasta, Siskiyou, Solano, Sonoma, and Tehama Counties (CNPS 2022). Blooms April through August (CNPS 2022; UCB 2022).	**No potential.** The BSA does not contain suitable wetland or vernal pool habitat. There are no CNDDB records of this species in or adjacent to the BSA.
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	--	--/1B.2	Perennial rhizomatous herb found in freshwater marshes and swamps from 0 to 395 feet. Known from Butte, Colusa, Contra Costa, Glenn, Sacramento, San Joaquin, Solano, Sutter, and Yolo Counties (CNPS 2022). Blooms June through September (CNPS 2022; UCB 2022).	**No potential.** The BSA does not contain suitable freshwater wetland habitat. There are no CNDDB records of this species in or adjacent to the BSA.

Special-Status Species Common Name	Federal Status	State Status/ CRPR	Habitat Requirements	Potential to Occur in the Biological Survey Area
Juncus leiospermus var. *ahartii* Ahart's dwarf rush	--	--/1B.2	Annual herb found at mesic areas of valley and foothill grassland from 100 to 750 feet. Known from Butte, Calaveras, Placer, Sacramento, Tehama, and Yuba Counties (CNPS 2022). Blooms March through May (CNPS 2022; UCB 2022).	**No potential.** The BSA does not contain suitable mesic grassland habitat. BSA is below the known elevation range of this species. There are no CNDDB records of this species in or adjacent to the BSA.
Juncus leiospermus var. leiospermus *Red Bluff dwarf rush*	--	--/1B.1	Annual herb found at vernal pools and mesic areas of chaparral, cismontane woodland, meadows, seeps, valley and foothill grassland from 115 to 4100 feet. Known from Butte, Placer, Shasta, Tehama Counties (CNPS 2022). Blooms March through June (CNPS 2022; UCB 2022).	**No potential.** Although the BSA does contain suitable woodland habitat, the BSA is below the known elevation range of this species and has not been previously documented in Sacramento County. There are no CNDDB records of this species in or adjacent to the BSA.
Legenere limosa legenere	--	--/1B.1	Annual herb found in vernal pools from 5 to 2,885 feet. Known from Alameda, Lake, Monterey, Napa, Placer, Sacramento, San Joaquin, San Mateo, Santa Clara, Shasta, Solano, Sonoma, Stanislaus, Tehama, and Yuba Counties (CNPS 2022). Blooms April through June (CNPS 2022; UCB 2022).	**No potential.** The BSA does not contain vernal pools. There are no CNDDB records of this species in or adjacent to the BSA.
Orcuttia viscida Sacramento Orcutt grass	T	R/1B.2	Annual herb found in vernal pools from 100 to 330 feet. Known only from Sacramento County (CNPS 2022). Blooms from April through July, sometimes through September (CNPS 2022; UCB 2022).	**No potential.** The BSA does not contain vernal pools the BSA and is below the known elevation range of this species. There are no CNDDB records of this species in or adjacent to the BSA.
Sagittaria sanfordii Sanford's arrowhead	--	--/1B.2	A perennial emergent rhizomatous herb found in assorted shallow freshwater marshes and swamps from 0 to 2,130 feet. Known mainly the Central Valley, but also from the San Francisco Bay Area, northwestern California, the Cascade foothills, and South Coast (CNPS 2022). Blooms May through October (CNPS 2022; UCB 2022).	**No potential.** The BSA does not contain suitable freshwater wetland habitat. There are no CNDDB records of this species in or adjacent to the BSA.
Symphyotrichum lentum Suisun Marsh aster	--	--/1B.2	Perennial rhizomatous herb found in freshwater marshes and swamps from 0 to 10 feet. Known from Contra Costa, Napa, Sacramento, San Joaquin, Solano, and Yolo Counties (CNPS 2022). Blooms May through November (CNPS 2022; UCB 2022).	**No potential.** The BSA does not contain suitable freshwater wetland habitat. There are no CNDDB records of this species in or adjacent to the BSA.

Source: Special-status plants evaluated in table were obtained from IPaC (USFWS 2022a), CNDDB (CDFW 2022b), and CNPS Rare Plant Inventory (CNPS 2022) database queries as described in report.

Note: Status Codes are as follow.

State: E = Endangered; T = Threatened; P = Proposed; C = Candidate; R = California Rare.
Status determined from the CNDDB query (CDFW 2022b).

California Rare Plant Rank (CRPR): 1A = Presumed extirpated in CA; 1B = Rare or Endangered in CA and elsewhere; 2A = Presumed extirpated in CA but more common elsewhere; 2B = Rare or Endangered in CA but more common elsewhere; 3 = Need more information; 4 = Watch List: Plants of limited distribution

CRPR Decimal Extensions: _.1 = Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat); _.2 = Fairly threatened in CA (20–80% of occurrences threatened / moderate degree and immediacy of threat); _.3 = Not very threatened in CA (<20% of occurrences threatened / low degree and immediacy of threat or no current threats).

Table E-2. Evaluation of Special-Status Wildlife Species Potential to Occur

Special-Status Species Common Name	Federal Status	State Status/ CDFW SSC or FP	Habitat Requirements	Potential to Occur in the Botanical Survey Area
Amphibians				
Ambystoma californiense California tiger salamander	T	T/--	Occurs in grassland, savanna, or open woodland habitats. Lives in vacant or mammal-occupied burrows throughout most of the year. Needs underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding (CDFW 2022a).	**No potential.** Although the BSA contains suitable open woodland habitat, it lacks suitable breeding habitat. Additionally, the BSA is surrounded by urban development in all directions, which inhibits dispersal. There are no CNDDB occurrences of this species within 10 miles of the BSA (CDFW 2022a).
Spea hammondii western spadefoot	--	--/SSC	Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg laying (CDFW 2022a).	**No potential.** Although the BSA contains suitable open woodland habitat, it lacks suitable breeding habitat. Additionally, the BSA is surrounded by urban development in all directions, which inhibits dispersal. There are no CNDDB occurrences of this species within 7 miles of the BSA (CDFW 2022a).
Birds				
Agelaius tricolor tricolored blackbird	T	--/SSC	Highly colonial species, most numerous in Central Valley and vicinity; largely endemic to California. Forages on ground in cropland, grassland, and pond edges. Nests near or over freshwater. Prefers emergent marsh of dense cattails or tules for nesting, but also nests in thickets of willow, blackberry, wild rose, and tall herbs (CDFW 2022a).	**No potential.** The BSA does not contain suitable nesting or habitat in the form of emergent freshwater marsh vegetation or dense shrub thickets capable of supporting large colonies.
Ammodramus savannarum grasshopper sparrow	--	--/SSC	Uncommon local summer resident and breeder in foothills and lowlands west of Cascade-Sierra Nevada crest from Mendocino and Trinity Counties south to San Diego County. Occurs in dry, dense grasslands, especially with scattered shrubs for sitting perches. Thick cover of grasses and forbs is essential for concealment. Nests are built of grasses and forbs in slight depressions in ground hidden by clump of grasses or forbs. Usually nests solitarily from early April to mid-July. May form semicolonial breeding groups of three to 12 pairs (CDFW 2022a).	**No potential.** The BSA lacks suitable dense grassland habitat for nesting and foraging due to regular mowing.
Aquila chrysaetos golden eagle	--	--/FP	Habitat includes rolling foothills, mountain areas, sage-juniper flats, and deserts. Cliff-walled canyons provide nesting habitat in most parts of this species range; also, large trees in open areas (CDFW 2022a).	**No potential.** Although the BSA contains suitable trees for nesting, the BSA is largely developed and likely lacks sufficient prey for this species.

Special-Status Species Common Name	Federal Status	State Status/ CDFW SSC or FP	Habitat Requirements	Potential to Occur in the Botanical Survey Area
Athene cunicularia burrowing owl	--	--/SSC	Inhabits open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent on burrowing mammals, most notably, California ground squirrel (*Otospermophilus beecheyi*) (CDFW 2022a).	**Unlikely to occur.** Suitable grassland is present within the BSA and adjacent areas; however, suitable small mammal burrows were not observed.
Buteo swainsoni Swainson's hawk	--	T /--	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands or alfalfa or grain fields supporting rodent populations (CDFW 2022a).	**Unlikely to occur.** Although the BSA contains suitable trees for nesting and the surrounding areas within Del Paso Park may also provide marginal foraging habitat, the remaining areas surrounding the BSA are largely developed and do not provide optimal foraging conditions for this species. There are five occurrences of this species within 5 miles of the BSA (CDFW 2022a). Most of these occurrences are found along larger river systems adjacent to agricultural field and undisturbed grassland habitat suitable for foraging.
Coccyzus americanus occidentalis western yellow-billed cuckoo	T	E/--	Nests in riparian forest, especially along broad, lower flood-bottoms of larger river systems. Prefers to nest in dense thickets of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape (CDFW 2022a).	**Unlikely to occur.** Although the BSA contains riparian woodland habitat, this community lacks dense thickets of woody vegetation, which this species requires for nesting.
Elanus leucurus white-tailed kite	--	--/FP	Habitat includes rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Forages in open grasslands, meadows, or marshes for close to isolated, dense-topped trees for nesting and perching (CDFW 2022a).	**Unlikely to occur.** The BSA contains suitable large trees for nesting. Suitable valley oak woodland foraging habitat is available immediately east of the BSA. There are 10 CNDDB occurrences of this species within 5 miles of the BSA (CDFW 2022a). Most of these occurrences are found along larger river systems adjacent to agricultural field and undisturbed grassland habitat suitable for foraging.
Laterallus jamaicensis coturniculus California black rail	--	T/FP	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during year and dense vegetation for nesting habitat (CDFW 2022a).	**No potential.** The BSA does not contain suitable freshwater or saltwater marsh habitats to support this species.
Melospiza melodia (pop. 1) song sparrow ("Modesto" population)	--	--/SSC	Occurs in central lower basin of Great Valley, from Colusa County south to Stanislaus County and east of Suisun Marshes. Breeds chiefly below 200 feet elevation in freshwater marshes, riparian thickets, sparsely vegetated irrigation canals, and valley oak restoration sites. Prefers areas of dense vegetation cover, consisting of willow and nettle thickets, growths of tules and cattails, and riparian oak forests with sufficient understory of blackberry. (CDFW 2022a).	**Unlikely to occur.** Although the BSA contains riparian woodland habitat along its northern edge, the BSA lacks dense thickets of woody vegetation, which this species prefers for nesting. Suitable nesting habitat is therefore marginal at best.

Special-Status Species Common Name	Federal Status	State Status/ CDFW SSC or FP	Habitat Requirements	Potential to Occur in the Botanical Survey Area
Progne subis purple martin	--	--/SSC	Inhabits woodlands, low-elevation coniferous forest of Douglas fir, ponderosa pine, and Monterey pine. Mostly nests in old woodpecker cavities and in humanmade structures; nests often located in tall, isolated tree/snag (CDFW 2022a).	**Likely to occur.** The BSA does not contain suitable conifer forests and woodlands; however, suitable snags and humanmade structures for nesting are present. There are three CNDDB occurrences of this species within 5 miles of the BSA (CDFW 2022a).
Riparia riparia bank swallow	--	T /--	Colonial nester that nests primarily in riparian and other lowland habitats west of desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole (CDFW 2022a).	**Unlikely to occur.** The BSA does not contain suitable cliff faces to provide suitable nesting sites for this species; however, marginally suitable habitat may be present nearby along Arcade Creek.
Vireo bellii pusillus least Bell's vireo	E	E/--	Summer resident of southern California that occurs in low-lying riparian habitat, below 2,000 feet in elevation within the vicinity of water or dry river bottoms. Nests are often placed along margins of bushes (usually willow, *Baccharis*, or mesquite) or on twigs projecting into pathways (CDFW 2022a).	**Unlikely to occur.** Although the BSA contains riparian woodland habitat, this community lacks dense thickets of woody vegetation, which this species requires for nesting.
Crustaceans				
Branchinecta lynchi vernal pool fairy shrimp	T	--/--	Endemic to grasslands of Central Valley, Central Coast mountains, and South Coast mountains in astatic rain-filled pools. Inhabits small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools (CDFW 2022a).	**No potential.** The BSA does not contain suitable vernal pool habitat.
Lepidurus packardi vernal pool tadpole shrimp	E	--/--	Inhabits vernal pools and swales in Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid (CDFW 2022a).	**No potential.** The BSA does not contain suitable vernal pool habitat.
Fish				
Acipenser medirostris (pop. 1) green sturgeon (southern Distinct Population Segment [DPS])	T	--/--	Anadromous fish that spawns in Sacramento, Feather, and Yuba Rivers (and possibly upper Stanislaus and San Joaquin Rivers). Spawning occurs primarily in cool (11–15ºC) sections of mainstem rivers in deep pools (8–9 meters) with substrate containing small- to medium-sized sand, gravel, cobble, or boulder. Exhibits spawning site fidelity. Non-spawning adults occupy marine/estuarine waters. Delta Estuary is important for rearing juveniles. (CDFW 2022a).	**No potential.** The BSA does not contain suitable freshwater habitats to support this species.

Special-Status Species Common Name	Federal Status	State Status/ CDFW SSC or FP	Habitat Requirements	Potential to Occur in the Botanical Survey Area
Archoplites interruptus Sacramento perch	--	--/SSC	Historically found in sloughs, slow-moving rivers, and lakes of Central Valley. Tolerates wide range of physio-chemical water conditions but refers warmer waters. Aquatic vegetation cover is essential for young (CDFW 2022a).	**No potential.** The BSA does not contain suitable freshwater habitats to support this species.
Hypomesus transpacificus Delta smelt	T	E/--	Occurs in Sacramento–San Joaquin Delta and may occur seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay. Seldom found where salinity exceeds 10 ppt, but most often occurs where salinity is less than 2 ppt (CDFW 2022a).	**No potential.** The BSA does not contain suitable freshwater habitats to support this species.
Oncorhynchus mykiss irideus (pop. 11) steelhead (Central Valley DPS)	T	--/--	Anadromous salmonid that spawns in small tributaries on coarse gravel beds in riffle areas (Busby et al. 1996). Once thought extirpated from San Joaquin Basin (Moyle 2002). Now potentially widespread throughout accessible streams and rivers in Central Valley, including known populations or observations in Deer and Mill Creeks in Tehama County; Yuba, Stanislaus, Mokelumne, Calaveras, Tuolumne, and Merced Rivers; and other streams (NOAA Fisheries 2022).	**No potential.** The BSA does not contain suitable freshwater habitats to support this species.
Oncorhynchus tshawytscha (pop. 11) chinook salmon (Central Valley spring-run ESU)	T	T/--	Federal listing refers to populations spawning in Sacramento River and tributaries. Spring-run salmon enter Sacramento River from late March through September. Adults hold in cool water habitats through summer, then spawn in fall from mid-August through early October. Juveniles migrate soon after emergence as young-of-the-year or remain in freshwater and migrate as yearlings (CDFW 1998). Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temperatures greater than 27ºC are lethal to adults. (CDFW 2022a).	**No potential.** The BSA does not contain suitable freshwater habitats to support this species.
Pogonichthys macrolepidotus Sacramento splittail	--	--/SSC	Endemic to lakes and rivers of Central Valley, but now confined to Delta, Suisun Bay, and associated marshes. Occurs in slow-moving river sections and dead end sloughs. Requires flooded vegetation for spawning and foraging for young (CDFW 2022a).	**No potential.** The BSA does not contain suitable freshwater habitats to support this species.
Spirinchus thaleichthys longfin smelt	C	T/--	Euryhaline, nektonic and anadromous fish found in open waters of estuaries, mostly in middle or bottom of water column. Prefers salinities between 15 and 30 ppt, but also is known to occasionally occur in completely freshwater to almost pure seawater (CDFW 2022a).	**No potential.** The BSA does not contain suitable freshwater habitats to support this species.

Special-Status Species Common Name	Federal Status	State Status/ CDFW SSC or FP	Habitat Requirements	Potential to Occur in the Botanical Survey Area
Insects				
Desmocerus californicus dimorphus valley elderberry longhorn beetle	T	--/--	Occurs throughout Central Valley, from approximately Shasta County to Madera County. Range includes valley floor and lower foothills below 500 feet in elevation. Requires elderberry (*Sambucus* sp.) as a host plant. Prefers to lay eggs in elderberries 2 to 8 inches in diameter; some preference shown for "stressed" elderberries (CDFW 2022a).	**No potential.** The BSA does not contain elderberry shrubs to support this species.
Danaus plexippus monarch butterfly	C	--/--	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, and cypress), with nectar and water sources nearby. Winter roost sites extend along coast from northern Mendocino County to Baja California, Mexico. Caterpillars feed exclusively on milkweed plants (*Asclepias* sp.)	**Unlikely to occur.** The BSA contains no known roosting sites, and no milkweed plants were observed.
Mammals				
Taxidea taxus American badger	--	--/SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats with friable soils for burrowing. Needs sufficient food, friable soils, and open, uncultivated ground. Preys on burrowing rodents (CDFW 2022a).	**No potential.** Suitable open woodland is present east of the BSA; however, the BSA is surrounded by urban development in all directions, which inhibits dispersal. There are no CNDDB occurrences of this species within 7 miles of the project (CDFW 2022a).
Reptiles				
Emys marmorata western pond turtle	--	--/SSC	Inhabits permanent and intermittent waters of rivers, creeks, small lakes and ponds, marshes, unlined irrigation canals, and reservoirs. Substantial populations can exist in waterbodies in urban areas. Sometimes found in brackish water. Often basks on logs, vegetation mats, or rocks. Nesting sites are on sandy banks and bars or in fields or sunny spots up to few hundred meters from water (CDFW 2022a).	**Unlikely to occur.** Although the BSA does not contain suitable freshwater habitats to support this species, Arcade Creek, located immediately north of the BSA, may provide suitable habitat; however, the BSA is surrounded by urban development in all directions, which inhibits dispersal. The nearest CNDDB occurrence of this species is located approximately 2.5 miles northwest of the BSA (CDFW 2022a).
Thamnophis gigas giant garter snake	T	T/SSC	Prefers freshwater marsh and low-gradient streams but has adapted to drainage canals and irrigation ditches. Most aquatic of garter snakes in California (CDFW 2022a).	**No potential.** The BSA does not contain suitable freshwater habitats to support this species.

Source: Special-status plants evaluated in table were obtained from IPaC (USFWS 2022a), CNDDB (CDFW 2022a), and CNPS Rare Plant Inventory (CNPS 2022) database queries as described in report.

Note: Status Codes are as follow.

E = Endangered; T = Threatened; P = Proposed; C = Candidate; R = California Rare. SSC = Species of Special Concern. Status determined from the Special Animals Lists (CDFW 2022c) or the CNDDB query (CDFW 2022a).

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APPENDIX F

Arborist Report

Arborist Report

Renfree Field at Del Paso Park Project

JANUARY 2023

Prepared for:

CITY OF SACRAMENTO
YOUTH, PARKS, AND COMMUNITY ENRICHMENT
PARK PLANNING AND DEVELOPMENT
Contact: Dennis Day

Prepared by:

DUDEK

605 Third Street
Encinitas, California 92024
Contact: Jeremy Cawn



Jeremy Cawn
Urban Forestry Specialist

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Table of Contents

SECTION **PAGE NO.**

Acronyms and Abbreviations iii

1 Introduction 5

2 Project Location and Description 6
- 2.1 Existing Conditions 6
- 2.2 Project Description 6

3 Methods 10
- 3.1 Field Tree Inventory and Evaluation 10
- 3.2 Scope of Work Limitations 11

4 Results 12
- 4.1 Tree Summary 12

5 Tree Impacts 14
- 5.1 Project Site Trees Classified as High Impact 15
- 5.2 Project Site Trees Classified as Moderate and Low Impact 15
- 5.3 Project Site Trees Classified as No Impact 15

6 Recommendations for Project Site Trees 16
- 6.1 Tree Removals 16
- 6.2 Tree Replacement Plan 16
- 6.3 Protecting Trees Identified for Preservation 17
- 6.4 Tree Permits and Public Notice 18

6 Conclusion 19

7 Arborists Disclosure 20

8 References 22

TABLES

Table 1 Project Site Tree Species Composition 12

Table 2 Project Tree Impacts by Tree Species 14

FIGURES

Figure 1 Project Location 7

Figure 2 Site Plans 8

APPENDICES

Attachment A

Representative Photographs

Attachment B

Tree Information Matrix

Attachment C

Tree Location Map

Attachment D

Tree Impact Matrix

Attachment E

Tree Impact Map

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
City	City of Sacramento
DSH	Diameter at Standard Height 4.5’ above ground
ISA	International Society of Arboriculture
project	Del Paso Park Renfree Field Improvement Project
TPZ	Tree protection zone

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1 Introduction

This Arborist Report and Tree Plan provides an inventory and evaluation of the trees on the 11.5-acre Renfree Field at Del Paso Park Improvement project (project) site in the City of Sacramento, California, that City of Sacramento Youth, Parks, and Community Services Department (City) is currently developing. The project site is in a public park within the city of Sacramento and is subject to the City of Sacramento's rules and regulations for the protection, removal, and mitigation of protected trees within the City's jurisdiction.

The City's Municipal Code protects all trees where the trunk is either wholly or partially located on City property or City right-of-way as a "City Tree". When development is proposed at public facilities like the park improvements proposed for this project, Chapter 12.56.040 of the City Municipal Code requires the city provide written justification for the removal of trees four inches in diameter or greater as part of a public project.

Dudek was retained by the City to complete an inventory of the trees present on the project site, provide an assessment of the condition and health of the trees, assess potential impacts from the proposed site development and park improvements, and describe any mitigation required to meet the standards in the City's Municipal Code. This Arborist Report presents an inventory of the trees present within the project site and trees next to the project site that could be impacted by the proposed project. The report includes detailed tree attribute information and a tree location exhibit that shows the locations of the protected trees on the project site. This report also includes an evaluation of the expected impacts to the protected trees present based on the proposed development footprint. Recommended protective measures are described for the trees that would be preserved and retained on site, and mitigation measures are described for the trees that would be removed to accommodate project development.

2 Project Location and Description

The project site is in Del Paso Park in the City Sacramento, Sacramento County, California. Del Paso Park is 624-acre park located in the Del Paso Heights neighborhood of Sacramento in the northeast part of the city. The park is bounded by Park Road to the north, the on and off ramps to Highway 244 to the east, Auburn Boulevard to the south, and Watt Avenue to the west. Arcade Creek runs through the park from west to east dividing the park into a smaller northern portion that is maintained as a natural area and larger southern portion that contains a mix of natural areas and park improvements such playing fields, playgrounds, and parking lots.

Adjacent properties are composed of a residential neighborhood to the north along Park Road, commercial properties to the east of Highway 244, a mix of residential and commercial properties to the south along Auburn Boulevard, and a museum to the west. (Figure 1)

2.1 Existing Conditions

Henry Renfree Field currently has a public park with a baseball field, a playground, and two parking lots. The project has two sections of the trail system that loops through Del Paso Park. Both sections run approximately east to west with one section beginning near the parking lot on the east project boundary and the other extending across the north project boundary. The project site is divided by Bridge Road running north to south through the western half of the project site. West of Bridge Road the project is undeveloped containing a cleared field surrounded by a chain link fence on the south and west sides. A vegetation fire recently occurred within the park burning into the natural area along the creek and the undeveloped field west of Bridge Road within the project boundaries.

Next to the project site on the north, east, and west of the project site are other areas of the park having a natural area covered with an oak woodland. To the south the park ends at Auburn Boulevard, a 4-lane divided road.

The terrain over the project site is generally level. Existing vegetation is predominantly composed of areas of landscape plants and shade trees around the parking lots and throughout the playground area and turf grass on the baseball fields. Around the perimeter of the project site is the natural area mentioned above, in these areas the vegetation is composed of an open canopy Valley Oak woodland with a grass understory. (Figure 2)

2.2 Project Description

The project proposes to perform several park improvements including new a basketball and pickle ball courts, a new parking lot, and the remodeling of the existing baseball field on the part of the project site northeast of Bridge Road. In the past excess soil had been spread in the open field southwest of Bridge Road. In this area, the project proposes to regrade and hydroseed the field. Finally, a walkway will be installed from the museum parking lot west of the project site to Bridge Road. Existing improvements such as the playground and the parking lot on the east side of the project site will remain.

Figure 1 Project Location

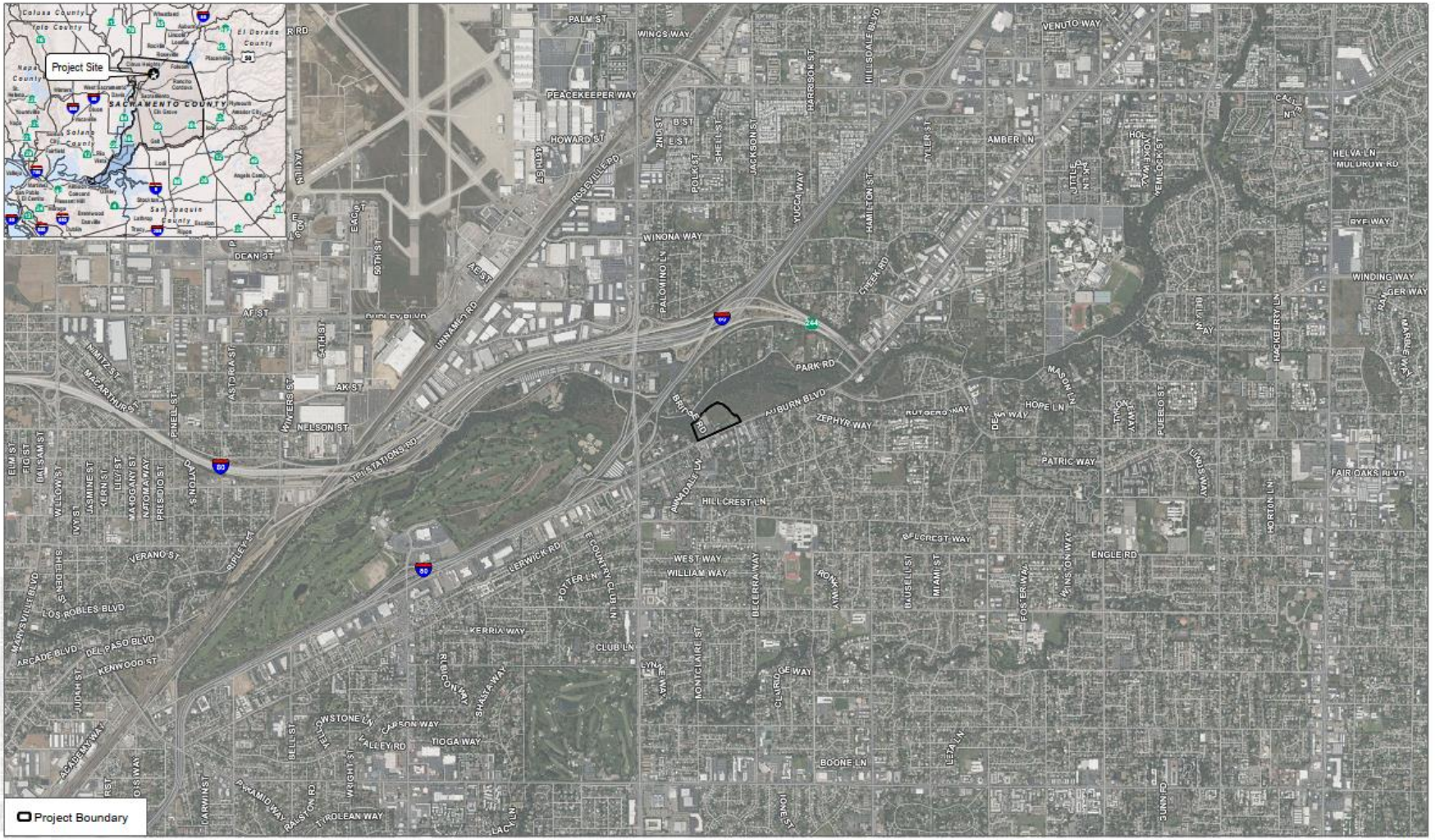


Figure 2 Existing Park Improvements



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3 Methods

The following sections describe the methods used by Dudek's ISA Certified Arborists to inventory and evaluate trees in the tree survey area.

3.1 Field Tree Inventory and Evaluation

Dudek mapped and collected individual tree attribute information for all protected trees meeting the City's definition of a protected tree—which includes street trees—and other trees within and next to the project limits. The location of each individual protected tree was mapped using the ArcGIS Collector software running on an iPad. Tree location information was collected by the iPad's internal GPS receiver. All trees were tagged in the field with an aluminum tree tag bearing a unique identification number. A tag was placed on the trunk of each inventoried tree except for the recently planted trees which were too small to tag. Each tag number corresponds with the individual tree data presented in Appendix B, Tree Information Matrix.

Concurrent with tree mapping efforts, Dudek arborists collected tree attribute data, including species, quantity of individual trunks, individual trunk diameters, overall height, canopy extent, general health and structural conditions, and overall condition. Trunk diameter measurements were collected at 4.5 feet above natural grade along the trunk axis, with a few common exceptions. In cases in which a tree's trunk was located on a slope, the 4.5-foot height was approximated as the average of the shortest and longest sides of the trunk (i.e., the uphill side and downhill side of the tree's trunk, respectively), and the measurement was made at the circumference of the trunk at this point. Tree height measurements were using a clinometer with 66-foot baseline. Heights for trees in clusters were made by measuring a single tree with the clinometer and then estimating the height of the remaining trees in the cluster based on the height obtained from the clinometer. Tree canopy diameters were typically estimated by pacing off the measurement based on the arborist's stride length or by visually estimating the canopy width. The tree-crown diameter measurements were made along an imaginary line intersecting the tree trunk that best approximated the average crown diameter.

Pursuant to the Guide for Plant Appraisal (Council of Tree and Landscape Appraisers 2000), tree health and structure were evaluated with respect to the following five distinct tree components: roots, trunks, scaffold branches, small branches, and foliage. Each component of the tree was assessed regarding health factors such as insect, fungal, or pathogen damage; fire damage; mechanical damage; presence of decay; presence of wilted or dead leaves; and wound closure. Tree health was graded as excellent, very good, *good*, *fair*, *poor*, critical, and *dead*, with *excellent* representing a tree with a full crown of dense, healthy foliage and *dead* representing a dying and/or dead tree. Structurally trees were graded as good, fair, poor, and very poor with good representing trees with no significant structural defects and only small dead branches and very poor representing a tree with significant defects in multiple areas of the tree with high likelihood of failure. This method of tree condition rating is comprehensive, and results in ratings that are useful for determining the status of trees based on common standards. This assessment focuses on tree conditions concerning health and structure for the purposes of analyzing potential project impacts, and where necessary, providing recommendations for mitigating potential tree hazards, such as trees with weak limb attachments, cavities and rot, or excessive lean that would not be appropriate for inclusion in a developed landscape. Each tree was assigned a health and structure rating which can be found in Attachment B the Tree Information Matrix.

Upon completion of field data collection and mapping, individual tree location and measurement data was compiled and updated using the ArcGIS suite of software. The digital tree locations were linked to individual tree identification numbers

and associated tree attribute data. This data set was then evaluated using ArcGIS (version 10.8.1) software to determine the position of individual trees related to the project development areas. Data resulting from this analysis were used to evaluate the individual tree impact totals in this report. Trees four inches in Diameter at Standard Height (DSH) or larger were assigned a number starting with 64 and ending with 157. Small recently planted trees were assigned a tree number with the prefix PT attached to signify that this tree was smaller than 4 inches DSH and recently planted.

3.2 Scope of Work Limitations

All trees were evaluated by visual assessment from the ground only. No aerial inspections, root crown excavations or investigations, or internal probing were performed during the tree assessment. Therefore, the presence or absence of internal decay or other hidden inferiorities in individual trees could not be confirmed. Trees located on the adjacent property, particularly those trees behind fences, were visually assessed from within project site, and the data recorded is based on what was measurable from within the project borders.

4 Results

There are a total of 111 trees located within or next time to the project site. Project site trees are composed of 10 different species, as presented in table 1. Representative photographs of the species present are presented in Attachment A. All 111 trees found within the project area meet the City's criteria for a "City Tree" as defined in Section 12.56.020 of the Sacramento City Code. The Tree Location Map (Attachment C) presents the location of the individual trees mapped and assessed for the proposed project.

Table 1 Project Site Tree Species Composition

Scientific Name	Common Name	Number of Trees
Ailanthus altissima	Tree of Heaven	2
Fraxinus velutina 'Modesto'	Modesto Ash	6
Gleditsia triacanthos	Honey Locust	1
Platanus x hispanica	London Plane Tree	18
Pyrus calleryana	Callery Pear	7
Quercus agrifolia	Coast Live Oak	7
Quercus lobata	Valley Oak	54
Quercus wislizeni	Interior Live Oak	10
Robinia × ambigua 'Idahoensis'	Idaho Locust	5
Washingtonia filifera	Mexican Fan Palm	1
	Total	**111**

Project site trees can be grouped into two categories; native tree species found in the natural areas of the park and ornamental or shade tree species planted in the developed areas of the park. Native trees are composed of native oaks. Shade and ornamental trees are composed of a mix of commonly planted urban trees including London Plane tree and pear tree. The exception to this is Valley Oak which was the most common tree on the project site and was found in both the natural and the developed parts of the park.

Sixteen of the 111 trees inventoried are small, recently planted trees that still have attached nursery stakes.

4.1 Tree Summary

Overall, the trees exhibit growth and structural conditions that are representative of their environment. Shade and ornamental trees were evenly spaced throughout the developed areas of the park and had symmetrical crowns that had been shaped by regular pruning that included removing lower branches from the tree crowns. Native trees in the natural areas had crowns that were less symmetrical with a crown structure influenced by competition from neighboring trees.

Tree health varied from very good to dead with trees in fair or better condition composing the majority (73%) of the trees measured. As presented in the Tree Information Matrix (Attachment B), 1.82% (2 trees) are in excellent

health, 41.82% (46 trees) are in good health, 30% (34 trees) are in fair health condition, and 13.64% (15 trees) are in poor health, 8.18% (9 trees) are in critical health, and 4.55% (5 trees) are dead.

The trees include various trunk and branch maladies, and varying health and structural conditions. As presented in the Tree Information Matrix (Appendix B), 1.82% (2 trees) are in excellent health, 41.82% (46 trees) are in good health, 30% (34 trees) are in fair health condition, and 13.64% (15 trees) are in poor health, 8.18% (9 trees) are in critical health, and 4.55% (5 trees) are dead. Many of the trees inventoried exhibited health symptoms typical of trees in moisture stress including thin crowns, early leaf drop, and branch tip dieback.

Structure varied from good to very poor with approximately ½ of the trees inventoried presenting no significant defects. As presented in the Tree Information Matrix (Appendix B), 53.1% (59 trees) presented good structure, 34.23% (38 trees) presented fair structure, 8.1% (9 trees) presenting poor structure, and 4.55% (5 trees) presenting very poor structure. Trees with structural ratings of fair or worse presented structural defects in their crown, trunk, and/or roots that had increased likelihood of failure. Fair trees had typically had defects that either occurred on a limited portion of the tree, for example a few large dead branches, or only affected a small portion of the tree, for example weak branch attachments in the crown. Poor trees typically had similar defects as trees with fair structure but the defects either occurred more frequently throughout the tree or affected a large portion of the tree, for example decay in the trunk or previous large branch or stem failure. Trees with very poor structure typically presented extensive structural defects throughout the entire tree such as significant decay that extends from the root flare up into the trunk. Three of the five trees rated as having very poor structure were Modesto Ash trees, a species that typically develops weakly attached branches and is not able to compartmentalize decay.

In summary most (72%) of the trees within the project area present fair or better health and structure. Health and structural grades were evenly distributed throughout the park with no areas where poor health or structure was concentrated.

5 Tree Impacts

Tree impacts were determined using GIS technology and spatial locations of trees relative to the project's development footprint. Impacts were further determined based on Dudek's experience with native and non-native trees, and trees' typical reactions to root disturbances from construction activities, such as soil compaction, excavation, and remedial grading. The impact analysis results in this arborist report were used for developing appropriate mitigation measures for the project.

Impacts to trees can be classified as high, moderate, low, or no impact. Trees classified as having high impacts are those trees where construction impacts and poor health would make it unlikely that the tree would survive the development process. Trees classified as having moderate or low impacts are those trees where construction is anticipated to occur within the Tree protection zone (TPZ) (the area around a tree within the outermost circumference of the canopy) but are not expected to be significantly impacted by the development process and are anticipated to be a part of the park post-development. Trees classified as no impact are those trees that are located within the project boundaries but are not anticipated to be affected by project development. Table 2 lists the anticipated tree impacts to project site trees by species. A description of the tree impacts for each tree can be found in Attachment D the Tree Impact Matrix.

Table 2 Project Tree Impacts by Tree Species

Scientific Name	Common Name	Number of Trees	High Impact	Moderate Impact	Low Impact	No Impact
Ailanthus altissima	Tree of Heaven	2	0	2	0	0
Fraxinus velutina 'Modesto'	Modesto Ash	6	0	5	0	1
Gleditsia triacanthos	Honey Locust	1	0	0	0	1
Platanus x hispanica	London Plane Tree	18	7	5	0	6
Pyrus calleryana	Callery Pear	7	1	1	3	2
Quercus agrifolia	Coast Live Oak	7	0	1	1	5
Quercus lobata	Valley Oak	54	4	6	11	33
Quercus wislizeni	Interior Live Oak	10	0	2	1	7
Robinia × ambigua 'Idahoensis'	Idaho Locust	5	5	0	0	0
Washingtonia filifera	Mexican Fan Palm	1	0	1	0	0
	Total	**111**	**17**	**23**	**16**	**56**

5.1 Project Site Trees Classified as High Impact

For the purposes of this arborist report, trees classified as high construction impacts are those with the trunk located inside or within five feet of the proposed development footprint. As shown in Table 2, there are 17 trees identified as having high construction impacts. Sixteen of these trees are categorized as removals solely because they are located within the development footprint, one additional tree is classified as high impacts because of a combination of poor health, poor structure, and its location within development footprint. An example of trees within the project site with high construction impacts is the row of trees between the existing ballfield and parking lot. These two rows of London Plane trees and oak trees are located within one of the proposed ballfields.

5.2 Project Site Trees Classified as Moderate and Low Impact

Trees are classified as having moderate and low construction impacts are located adjacent to the proposed development or to existing improvements that will be demolished. Construction is anticipated within the Tree protection zone that is expected to result in disturbance to the soil and roots or disturbance to the tree crown, but it is anticipated that trees with moderate or low construction impacts will survive development and can be incorporated into the new park facilities. Moderate and low construction impacts are differentiated by two criteria; first, how much of the TPZ is impacted and second, the severity of the impact. Trees classified as moderate construction impacts include the trees south of the existing ballfield, up to half of the TPZ on these trees could be impacted by the demolition of the existing ballfield facilities and the construction of the new facilities. Trees classified as low construction impact include the oak trees around the perimeter of the field west of Bridge Road, only minor grading is being proposed within the TPZ of these trees and no development. As shown in table 2, 23 trees are categorized as having moderate construction impacts and 16 are categorized as having low construction impacts.

5.3 Project Site Trees Classified as No Impact

Trees classified as having no impact are located within the project area boundaries but are not located near the development footprint and are not expected to be significantly impacted. Trees with no anticipated construction impacts include the trees surrounding the parking lot in the southeast corner of the project site and trees located along the trail east of the ballfields. As shown in Table 2, 56 trees are classified as no impact.

6 Recommendations for Project Site Trees

6.1 Tree Removals

Thirty-four trees within the project site are recommended for removal. These trees are recommended for removal for because:

1. They are dead or are in poor health with no hope of recovery (6 trees).
2. They have structural defects that cannot be mitigated by less severe measures and have the potential to fail onto park users, park improvements, or nearby public streets (8 trees).
3. They are located within the development footprint and are not expected to survive project development (18 trees).

Dudek recommends that the city removes all above ground portions and grinds the stumps of these 34 trees. Attachment D the Tree Impact Matrix describes the reason(s) for removal for each tree identified for removal. Attachment E, The Tree Impact Map shows the location of the trees that are identified for removal and those that are identified for preservation. Regardless of the status of the project Dudek recommends that the city remove the five trees rated as having very poor structure, trees # 80, 117, 118, 119, and 146. These trees have an increased likelihood of failure within the next 12 months due to significant decay, cracking or splitting, or cavities. Details and location of each tree recommended for prompt removal can be found in the Tree Impact Matrix and Map.

6.2 Tree Replacement Plan

Dudek recommends that the city plant replacement trees to mitigate the loss of the 34 trees identified for removal. Fourteen of the trees recommended for removal are not located within the project development footprint and Dudek recommends that a replacement tree be installed in the same location as the removed tree. For the remaining 20 trees Dudek recommends installing a new tree in a suitable location within the project area. There are several openings within the project boundaries with adequate space to support the growth of replacement trees including:

- Between the trail and the east ball field fence.
- In the undeveloped area west of Bridge Road.
- In small field along the walkway between the existing parking lot and the existing playground.

Dudek recommends that replacement trees be selected from native oak species including Valley Oak, Interior Live Oak, and Coast Live Oak. These species are present in the natural areas surrounding the field and are well adapted to the conditions within the project site. The only exception to this would be the replacement of the dead pear tree

in the planter in the playground area, Dudek recommends Western Redbud (*Cercis occidentalis*) for this smaller growing space. For all the replacement trees Dudek recommends planting 24-inch box size trees.

If the City were to replace the trees recommended for removal on 1 tree to 1 tree ratio, then the city would be required to plant 34 new trees. If the City were to replace the trees recommended for removal on inch for inch ratio than the city would be required to plant 297 new 24-inch box trees (Total removed trees diameter=594 diameter inches/ average 2-inch diameter for 24-inch box size tree.).

6.3 Protecting Trees Identified for Preservation

To prevent damage to the 77 trees identified for preservation Dudek recommends that the city install protective measures around these trees. Trees that have been identified as having no construction impacts will need fewer protective measures than those identified as having low or moderated impacts. Trees with no impacts may only require signage to prevent construction storage or parking from occurring within their TPZ while trees with low or moderate may require trimming, root pruning, or fencing to prevent unnecessary damage to the tree during project development. Protective measures recommended for the project site are described below.

Protective Fencing: Install protective fencing at the outer circumference of the TPZ or along the boundary or approved construction for the trees identified as Low and Moderate Construction impacts (Trees #93, 105-117, 122, 131-136, 139, 146,148-150, 153, and 155-156). Where practical, install protective fencing to enclose the overlapping TPZs of clusters or rows of trees. Tree protection fencing should be composed of 6-foot-tall chain link fencing. The fencing should be supported by steel posts either driven into the ground or supported on weighted steel feet.

Signage: Signs should be installed along the outer circumference of the TPZ or along the boundary of approved construction that identify that the nearby tree(s) are identified as trees that will be preserved and are protected by City code 12.56. Signs should clearly state the following information:

1. The nearby tree(s) is protected.
2. Only approved construction activities are allowed near the tree.
3. Parking vehicles, storing construction materials, and dumping waste is prohibited near the tree

Signs can be posted on protective fencing or small posts installed into the ground.

Irrigation: Water the trees identified for preservation during construction if it has been more than 30 days since the last measurable precipitation. A 6-inch-tall berm can be constructed around the preserved trees or clusters of preserved trees to serve as a basin to retain supplemental water. This berm can be constructed out of earth or the mulch. The berm should be constructed at approximately 10 feet from the trunk of the tree. Supplemental water should be applied every two weeks and in sufficient quantity to fill water up to the top of the berm. Irrigation water can be applied by whatever means are most practical including hand watering or using water tanker trucks already on site to control dust.

Tree Trimming: Trees along the baseball field may require trimming to create adequate space for the installation of the backstop and fence along the south side of the field (Trees # 130-134). In addition to tree trimming for project clearance Dudek recommends crown cleaning to remove dead and broken branches for trees # 93, 105, 116-117, 148, 153, and 155. All tree pruning should be performed by an International Society of Arboriculture (ISA) certified arborist should be performed according to tree trimming guidelines published by the ISA and following American National Standards Institute (ANSI) A300 standards.

Root pruning: Based on the site plans reviewed in the creation of this report root pruning is not expected for most of the trees identified for preservation. The grading of the undeveloped field west of Bridge Road has the highest potential for encountering tree roots two inches in diameter or greater that would require evaluation prior to removing. For all tree roots encountered during project construction activities Dudek recommends that the roots be cut with a sharp instrument such as hand pruners or a saw-zall and cut cleanly at the edge of the approved construction. Tree roots should not be twisted, ripped, or broken off by construction equipment. Roots greater than two inches in diameter should be evaluated by the Project Arborist prior to pruning.

Monitoring: An ISA certified arborist should visit the project site periodically during construction to assess the status of the preserved trees and check on the tree protection measures that were implemented. Ideally an arborist should be present after the following construction related events: tree fencing has been installed, during excavation and grading, and during the installation of parking lots and driveways near project trees.

The tree protection measures described above except for root pruning should be set up prior to the start of any grading or construction work.

6.4 Tree Permits and Public Notice

The Sacramento City Code section 12.56 has several requirements for public projects where the removal of City trees is proposed.

First, the city must apply for and obtain a Tree Permit to perform regulated work on City Trees within the project boundaries. Regulated work includes tree removal, tree branch and root pruning, and construction activities within the Tree protection zone (TPZ). For the Del Paso Park Renfree Field Improvement Project the City would be responsible for obtaining a permit to perform regulated work for the removal of 34 trees and performing construction activities within the TPZ of 29 trees. A Tree Permit is not required to perform tree trimming for removing dead and broken branches since this is considered “routine work” and exempt from permit requirements.

Second, the city must supply written notice of the proposal to remove the 34 trees identified for removal in this report by posting a notice of the city council meeting where the city council will decide whether or not to remove city trees.

Finally, the city is required to provide justification and obtain city council for each City Tree proposed for removal by the project that is four inches in diameter or larger at DSH. For this project this includes 33 of 34 trees recommended for removal in this report. One tree recommended for removal has a diameter below 4 inches DSH and not justification is required for its removal.

This arborist report supplies the site and tree information necessary to apply for the Tree Permit and provides justification for the trees recommended for removal. It can be submitted as part of the project development plan package to satisfy the City's requirements described in section 12.56 of the City Code.

6 Conclusion

The Del Paso Park Renfree Field Improvement project site covers an 11.5-acre part of Del Paso Regional Park in the City of Sacramento. The park improvement project proposes to replace the existing ballfield and an unused parking lot with new playing field plus a new parking lot, basketball, and pickle ball courts. The project also proposes to install a walkway along Auburn Boulevard connecting the parking lot at the southeast corner of the project to the museum west of the project site and grade the undeveloped field west of Bridge Road. There are 111 trees found within the project boundaries that include the proposed park improvements plus several existing features that will remain after development is complete. Since all 111 trees are found within a public park, all meet the City's criteria for protection as a City Tree as described in section 12.56 of the Sacramento City Code.

For the 111 City Trees within the project site Dudek recommends that 34 City trees be removed because of conflicts with the proposed construction, the tree is dead or in poor health, the tree has poor structure, or a combination of the three. The project will require the city to obtain a Tree Permit prior to removing these trees and will require that the city plant replacement trees to mitigate the loss of the project trees. Using the criteria provided in the City code mitigating the removal of the 34 trees could require the City to plant between 34 and 274 new trees with the number of required replacement trees ultimately being decided by the Director of the Department of Parks and Recreation. Seventy-seven City Trees on the project site can be preserved provided that protective measures are installed for the trees near the development footprint from to prevent these trees from being damaged by construction activities.

This report was produced using the information obtained from a site visit and a set of conceptual site plans. As the design process progresses the number of protected trees impacted, and the severity of the impact may change including the number of trees that can be removed or preserved. This arborist report should be reviewed as the project progresses and updated accordingly.

7 Arborists Disclosure

This report provides conclusions and recommendations based only on a visual examination of the trees and surrounding site by an ISA Certified Arborist and reasonable reliance on the completeness and accuracy of the information provided to the arborist. The examination did not include subterranean or internal examination of the trees.

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near them. Although trees provide many benefits to those who live near them, they also include inherent risks from breakage or failure that can be minimized, but not eliminated.

Arborists cannot detect every condition that could possibly lead to the failure of a tree. Trees are living organisms subject to attack by disease, insects, fungi, weather, and other forces of nature, and conditions that lead to failure are often hidden within trees and below ground. There are some inherent risks with trees that cannot be predicted with any degree of certainty, even by a skilled and experienced arborist. Arborists cannot predict acts of nature that can cause even an apparently healthy tree to fail, including storms of sufficient strength. Additionally, arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for any specific period. A tree's condition could change over a short or long period of time due to climatic, cultural, or environmental conditions. Further, there is no guarantee or certainty that recommendations or efforts to correct unsafe conditions will prevent future breakage or failure of a tree.

To live or work near trees is to accept some degree of risk. Neither the author of this report nor Dudek assumes any responsibility for, nor will either of them be liable for, any claims, losses, or damages for damage to any tree, death or injury to any person, or any loss of or damage to any personal or real property.

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8 References

Council of Tree and Landscape Appraisers. 2000. *Guide for Plant Appraisal*. 9th ed. Champagne, Illinois: International Society of Arboriculture.

City of Sacramento. 2016. *AN ORDINANCE AMENDING SECTIONS 2.62.030 AND 8.04.100, DELETING AND ADDING CHAPTER 12.56, AND DELETING CHAPTERS 12.60 AND 12.64 OF THE SACRAMENTO CITY CODE, RELATING TO TREES* Sacramento City Council Ordinance 2016-0026. August 4, 2016.

Attachment A
Representative Photographs



Photo 1: Trees #64-66 near the SE corner of the project.



Photo 2: Tree # 80, a Valley Oak just north of the existing parking lot at the SE corner of the project.



Photo 3: Idaho Locusts #85-89 along the north project boundary.



Photo 4: Tree # 91 a dead Valley Oak along the north project boundary.



Photo 5: Tree # 96, A London Plane Tree along the west side of the baseball field.



Photo 6: Tree # 108 located behind the fence along the west project boundary.



Photo 7: Tree # 128, A London Plane Tree located in the park area east of the playground.



Photo 8: Trees # 148 (Valley Oak background) and 151 (Callery Pear foreground) next to the playground.

Attachment B
Tree Information Matrix

Tree ID Number	*Scientific Name*	Common Name	Total Diameter (inches)	Stems	Diam 1	Diam 2	Diam 3	Diam 4	Diam 5	Diam 6	Height (ft.)	Crown Width (ft.)	Health	Structure Rating	Structural Integrity	Notes
64	*Quercus lobata*	Valley Oak	20	3	10	6	4				29	27	80	60	Fair. Unbalanced crown, weak attachments at the main stem union.	
65	*Fraxinus velutina 'Modesto'*	Modesto Ash	40	4	8	13	9	10			36	36	80	60	Fair. weak attachments at the main stem union.	
66	*Quercus lobata*	Valley Oak	4	1	4						18	15	80	80	Good. Suppressed tree.	
67	*Quercus lobata*	Valley Oak	4	1	4						17	15	80	80	Good. Suppressed tree.	
68	*Quercus lobata*	Valley Oak	5	1	5						15	10	80	60	Fair. Unbalanced crown. Suppressed tree.	
69	*Quercus lobata*	Valley Oak	9	1	9						22	15	80	80	Good.	
70	*Quercus lobata*	Valley Oak	12	2	7	5					25	20	40	60	Fair. Weak attachments at the main stem union.	
71	*Quercus wislizeni*	Interior Live Oak	4	1	4						13	12	80	60	Fair. Unbalanced crown.	
72	*Quercus wislizeni*	Interior Live Oak	7	1	7						33	10	60	60	Fair. Large wound on the trunk with decay.	
73	*Quercus wislizeni*	Interior Live Oak	5	1	5						14	10	60	80	Good.	
74	*Quercus lobata*	Valley Oak	6	1	6						20	15	80	80	Good.	
75	*Quercus lobata*	Valley Oak	8	2	4	4					22	15	40	60	Fair. Weak attachments at the main stem union.	
76	*Quercus lobata*	Valley Oak	6	2	3	3					18	11	60	60	Fair. Weak attachments at the main stem union.	
77	*Quercus lobata*	Valley Oak	10	3	4	3	3				20	11	60	60	Fair. Weak attachments at the main stem union.	
78	*Quercus lobata*	Valley Oak	4	1	4						12	11	60	80	Good.	
79	*Quercus lobata*	Valley Oak	4	1	4						14	15	40	80	Good.	
80	*Quercus lobata*	Valley Oak	30	1	30						46	52	40	60	Fair. Weak attachments at the main stem union. Large dead branches.	
81	*Quercus lobata*	Valley Oak	11	1	11						31	17	0	20	Very poor. Cracks and decay on the trunk. Large dead branches.	
82	*Quercus lobata*	Valley Oak	23	2	11	12					35	30	0	40	Poor. Large dead branches. Weak attachment at the main stem union.	
83	*Quercus lobata*	Valley Oak	10	1	5	5					18	15	20	40	Poor. Large dead branches. Weak attachment at the main stem union.	
84	*Quercus lobata*	Valley Oak	18	1	18						47	40	60	60	Fair. Weak attachment at the main stem union.	Mistletoe
85	*Robinia × ambigua 'Idahoensis'*	Idaho Locust	14	2	7	7					40	25	40	60	Fair. Weak attachment at the main stem union. Large dead branches.	
86	*Robinia × ambigua 'Idahoensis'*	Idaho Locust	4	2	2	2					24	16	40	60	Fair. Weak attachment at the main stem union. Large dead branches.	Main stem previously removed.
87	*Robinia × ambigua 'Idahoensis'*	Idaho Locust	13	3	9	2	2				35	25	40	60	Fair. Weak attachment at the main stem union. Large dead branches.	Previously a multi stem tree, 4 stems removed.
88	*Robinia × ambigua 'Idahoensis'*	Idaho Locust	6	2	2	2	2				20	15	40	60	Fair. Weak attachment at the main stem union. Large dead branches.	Previously a multi stem tree, 2 stems removed.

Tree ID Number	*Scientific Name*	Common Name	Total Diameter (inches)	Stems	Diam 1	Diam 2	Diam 3	Diam 4	Diam 5	Diam 6	Height (ft.)	Crown Width (ft.)	Health	Structure Rating	Structural Integrity	Notes
89	*Robinia × ambigua 'Idahoensis'*	Idaho Locust	7	1	7						36	16	40	60	Fair. Weak attachment at the main stem union. Large dead branches.	Previously a multi stem tree, 4 stems removed.
90	*Gleditsia triacanthos*	Honey Locust	23	1	23						53	45	80	60	Fair. Large dead branches.	
91	*Quercus lobata*	Valley Oak	44	1	44						55	70	0	40	Poor. Large dead branches. Previous large branch failure. Decay on the trunk.	
92	*Quercus lobata*	Valley Oak	46	0	46						59	85	20	40	Poor. Large dead branches. Decay in the crown.	Bird nest
93	*Quercus lobata*	Valley Oak	56	0	56						72	70	60	60	Fair. Weak attachment at the main stem union with decay. Large dead branches.	
94	*Platanus x hispanica*	London Plane tree	15	0	15						54	35	60	80	Good.	
95	*Platanus x hispanica*	London Plane tree	16	0	16						58	35	60	80	Good.	Hanging branches.
96	*Platanus x hispanica*	London Plane tree	16	1	16						56	35	60	80	Good.	
97	*Platanus x hispanica*	London Plane tree	22	1	22						60	55	60	80	Good.	Hanging branches.
98	*Platanus x hispanica*	London Plane tree	16	1	16						60	45	60	60	Fair. Overextended branches.	Hanging branches.
99	*Quercus lobata*	Valley Oak	20	1	20						50	45	80	60	Fair. Weak attachments at the main stem union and branch unions. Large dead branches.	Hanging branches.
100	*Quercus lobata*	Valley Oak	15	1	15						45	33	90	80	Good.	
101	*Quercus lobata*	Valley Oak	15	1	15						46	40	60	80	Good.	
102	*Quercus lobata*	Valley Oak	27	1	27						53	55	90	60	Fair. large dead branches.	
103	*Platanus x hispanica*	London Plane tree	18	1	18						60	45	60	80	Good.	
104	*Platanus x hispanica*	London Plane tree	15	1	15						55	35	60	80	Good.	
105	*Quercus lobata*	Valley Oak	30	1	30						56	60	80	60	Fair. Large dead branches.	Veg fire damage to lower crown. Mistletoe.
106	*Quercus agrifolia*	Coast Live Oak	8	1	8						24	15	80	80	Good.	Veg fire damage to lower crown. Not tagged behind fence.
107	*Quercus wislizeni*	Interior Live Oak	58	5	14	12	10	10	12		47	40	80	80	Good.	Veg fire damage to lower crown. Not tagged behind fence. DSH estimated.
108	*Quercus lobata*	Valley Oak	18	1	18						64	30	80	60	Fair. Unbalanced crown.	Not tagged behind fence. DSH estimated.
109	*Quercus lobata*	Valley Oak	36	3	12	12	12				60	30	80	60	Fair. Unbalanced crown.	Not tagged behind fence. DSH estimated.
110	*Quercus wislizeni*	Interior Live Oak	26	2	14	12					43	25	80	60	Fair. Unbalanced crown. Weak attachment at the main stem union.	Not tagged behind fence. DSH estimated.
111	*Quercus lobata*	Valley Oak	18	1	18						50	35	60	80	Good.	Not tagged behind fence. DSH estimated.
112	*Quercus lobata*	Valley Oak	30	1	30						65	55	80	60	Fair. Weak attachments at the main stem union.	Damage to the lower crown from recent Veg fire.
113	*Quercus lobata*	Valley Oak	28	2	18	10					50	55	60	80	Good.	Not tagged behind fence. DSH estimated.

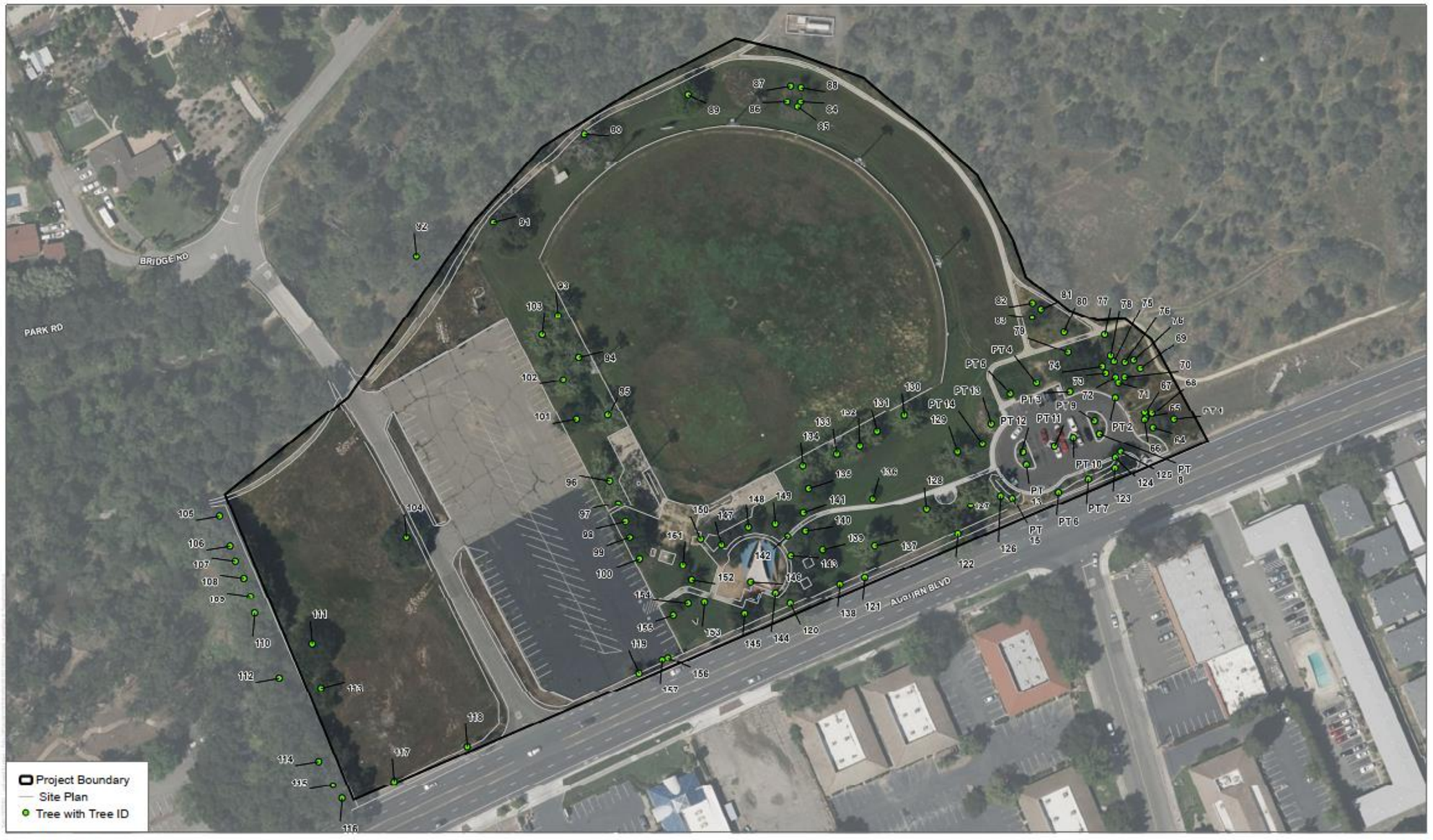
Tree ID Number	*Scientific Name*	Common Name	Total Diameter (inches)	Stems	Diam 1	Diam 2	Diam 3	Diam 4	Diam 5	Diam 6	Height (ft.)	Crown Width (ft.)	Health	Structure Rating	Structural Integrity	Notes
114	*Quercus lobata*	Valley Oak	25	2	15	10					59	40	60	80	Good.	
115	*Quercus lobata*	Valley Oak	49	2	25	24					55	50	80	60	Fair. Unbalanced crown.	Not tagged, behind fence. DSH estimated.
116	*Quercus lobata*	Valley Oak	30	2	30						60	50	60	60	Fair. Large dead branches.	Not tagged, behind fence. DSH estimated.
117	*Quercus lobata*	Valley Oak	30	1	30						45	40	60	60	Fair. Large dead branches.	Not tagged, behind fence. DSH estimated.
118	*Fraxinus velutina 'Modesto'*	Modesto Ash	22	1	22						16	14	20	20	Very poor. Decay in the trunk and root flare.	Not tagged, behind fence. DSH estimated.
119	*Fraxinus velutina 'Modesto'*	Modesto Ash	22	1	22						36	35	80	20	Very poor. Decay in the trunk and root flare. Previous large branch failure	
120	*Fraxinus velutina 'Modesto'*	Modesto Ash	30	1	30						35	35	80	20	Very poor. Decay in the crown, trunk, and root flare. Previous large branch failure	
121	*Fraxinus velutina 'Modesto'*	Modesto Ash	30	1	30						65	55	60	40	Poor. Large dead branches. Previous large branch failure. Decay in the crown.	
122	*Washingtonia filifera*	Mexican Fan Palm	18	1	18						35	15	80	80	Good. Large dead skirt.	
123	*Fraxinus velutina 'Modesto'*	Modesto Ash	32	1	32						56	55	80	40	Poor. Large dead branches. Weak attachments. Decay and cavity in the trunk below the main union.	
124	*Quercus lobata*	Valley Oak	47	5	8	10	11	10	8		50	35	80	60	Fair. Weak attachments at the main stem union.	
125	*Quercus lobata*	Valley Oak	6	2	3	3					20	15	80	80	Good.	
126	*Quercus lobata*	Valley Oak	6	1	6						22	20	80	80	Good.	
127	*Platanus x hispanica*	London Plane tree	14	1	14						54	40	80	80	Good.	
128	*Platanus x hispanica*	London Plane tree	14	1	14						50	35	60	80	Good.	
129	*Platanus x hispanica*	London Plane tree	13	1	13						50	30	80	80	Good.	
130	*Platanus x hispanica*	London Plane tree	15	1	15						55	45	60	80	Good.	
131	*Platanus x hispanica*	London Plane tree	13	1	13						55	47	60	80	Good.	
132	*Platanus x hispanica*	London Plane tree	13	1	13						42	27	60	80	Good.	
133	*Platanus x hispanica*	London Plane tree	13	1	13						51	30	60	80	Good. Corrected lean.	
134	*Platanus x hispanica*	London Plane tree	13	1	13						54	27	40	80	Good. Hanging branches.	
135	*Platanus x hispanica*	London Plane tree	14	1	14						54	43	40	80	Good.	
136	*Quercus lobata*	Valley Oak	18	1	18						45	35	20	80	Good.	
137	*Platanus x hispanica*	London Plane tree	13	1	13						24	12	60	40	Poor. Top died and broke off. Large dead area on the trunk. Weak attachments near top failure point.	
138	*Platanus x hispanica*	London Plane tree	16	1	16						53	47	60	60	Fair. Overextended branches.	

Tree ID Number	*Scientific Name*	Common Name	Total Diameter (inches)	Stems	Diam 1	Diam 2	Diam 3	Diam 4	Diam 5	Diam 6	Height (ft.)	Crown Width (ft.)	Health	Structure Rating	Structural Integrity	Notes
139	*Quercus wislizeni*	Interior Live Oak	6	1	6						20	20	80	80	Good.	Growing into the fence.
140	*Quercus agrifolia*	Coast Live Oak	12	1	12						26	25	80	80	Good.	
141	*Quercus agrifolia*	Coast Live Oak	17	1	17						47	25	60	80	Good.	
142	*Quercus lobata*	Valley Oak	12	1	12						38	30	20	40	Poor. Large dead branches. Large dead area on the trunk and root flare. Corrected lean.	
143	*Quercus lobata*	Valley Oak	14	1	14						46	30	20	80	Good.	
144	*Quercus lobata*	Valley Oak	15	1	15						45	40	60	60	Fair. Weak attachment at the main stem union.	
145	*Quercus agrifolia*	Coast Live Oak	9	1	9						29	23	60	80	Good.	
146	*Quercus agrifolia*	Coast Live Oak	31	2	14	17					29	40	80	80	Good.	
147	*Pyrus calleryana*	Callery Pear	26	1	9	17					24	20	0	20	Very poor. Cracks and decay in the trunk. Large dead branches.	
148	*Quercus lobata*	Valley Oak	23	1	23						60	55	60	60	Fair. Large dead branches	
149	*Quercus lobata*	Valley Oak	12	1	12						41	30	40	80	Good.	
150	*Quercus lobata*	Valley Oak	13	1	13						40	30	40	80	Good.	
151	*Pyrus calleryana*	Callery Pear	12	1	12						39	25	20	60	Fair. Large dead branches.	
152	*Pyrus calleryana*	Callery Pear	10	1	10						31	25	20	40	Poor. Large dead branches. Previous large branch failure. Weak attachments at the branch unions. Unbalanced crown	
153	*Pyrus calleryana*	Callery Pear	20	4	6	5	5	4			33	25	40	60	Fair. Weak attachments at the branch unions. Large dead branches.	
154	*Pyrus calleryana*	Callery Pear	7	1	7						25	20	20	60	Fair. Weak attachments at the branch unions. Large dead branches.	
155	*Pyrus calleryana*	Callery Pear	22	1	8	5	5	4			30	20	40	60	Fair. Weak attachments at the branch unions. Large dead branches.	
156	*Pyrus calleryana*	Callery Pear	9	1	9						27	20	60	60	Fair. Weak attachments at the branch unions.	
157	*Ailanthus altissima*	Tree of Heaven	9	3	3	3	3				16	15	80	80	Good	Previously cut off at 2 ft above ground.
158	*Ailanthus altissima*	Tree of Heaven	7	3	3	2	2				15	15	80	80	Good	
PT 1	*Quercus lobata*	Valley Oak	1	1	1						3	2	80	80	Good	Recently planted tree.
PT 10	*Quercus lobata*	Valley Oak	3	1	3						13	12	80	80	Good	Recently planted tree.
PT 11	*Quercus lobata*	Valley Oak	3	1	3						12	10	80	80	Good	Recently planted tree.
PT 12	*Quercus lobata*	Valley Oak	3	1	3						14	10	80	80	Good	Recently planted tree.
PT 13	*Quercus lobata*	Valley Oak	2	1	2						10	10	80	80	Good	Recently planted tree.
PT 14	*Quercus lobata*	Valley Oak	3	1	3						14	12	80	80	Good	Recently planted tree.
PT 15	*Quercus wislizeni*	Interior Live Oak	2	1	2						12	12	80	80	Good	Recently planted tree.
PT 16	*Quercus wislizeni*	Interior Live Oak	2	1	2						12	10	80	80	Good	Recently planted tree.
PT 2	*Quercus agrifolia*	Coast Live Oak	2	1	2						8	4	80	80	Good	Recently planted tree.
PT 3	*Quercus agrifolia*	Coast Live Oak	2	1	2						7	4	80	80	Good	Recently planted tree.
PT 4	*Quercus lobata*	Valley Oak	2	1	2						7	4	0	80	Good	Recently planted tree.
PT 5	*Quercus lobata*	Valley Oak	2	1	2						10	7	60	80	Good	Recently planted tree.
PT 6	*Quercus wislizeni*	Interior Live Oak	2	1	2						7	10	80	80	Good	Recently planted tree.

Tree ID Number	*Scientific Name*	Common Name	Total Diameter (inches)	Stems	Diam 1	Diam 2	Diam 3	Diam 4	Diam 5	Diam 6	Height (ft.)	Crown Width (ft.)	Health	Structure Rating	Structural Integrity	Notes
PT 7	*Quercus wislizeni*	Interior Live Oak	2	1	2						7	12	80	80	Good	Recently planted tree.
PT 8	*Quercus lobata*	Valley Oak	3	1	3						12	12	80	80	Good	Recently planted tree.
PT 9	*Quercus lobata*	Valley Oak	3	1	3						15	12	80	80	Good	Recently planted tree.

Note: PT designates a recently planted tree

Attachment C
Tree Location Map



SOURCE: Bing Imagery 2021, Architect D. Dey 2022

DUDEK

FIGURE 3
Project Tree Map
Renfree Field At Del Paso Regional Park

Attachment D
Tree Impact Matrix

Tree ID Number	*Scientific Name*	Common Name	Project Impacts	Remove/ Preserve	Reason For Removal	Tree Protection Measures	Total Diameter (inches)	Stems	Height (ft.)	Crown Width (ft.)	Health Rating	Structure Rating	Structural Integrity	Notes
64	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	20	3	29	27	80	60	Fair. Unbalanced crown, weak attachments at the main stem union.	
65	*Fraxinus velutina 'Modesto'*	Modesto Ash	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	40	4	36	36	80	60	Fair. weak attachments at the main stem union.	
66	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	4	1	18	15	80	80	Good. Suppressed tree.	
67	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	4	1	17	15	80	80	Good. Suppressed tree.	
68	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	5	1	15	10	80	60	Fair. Unbalanced crown. Suppressed tree.	
69	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	9	1	22	15	80	80	Good.	
70	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	12	2	25	20	40	60	Fair. Weak attachments at the main stem union.	
71	*Quercus wislizeni*	Interior Live Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	4	1	13	12	80	60	Fair. Unbalanced crown.	
72	*Quercus wislizeni*	Interior Live Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	7	1	33	10	60	60	Fair. Large wound on the trunk with decay.	
73	*Quercus wislizeni*	Interior Live Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	5	1	14	10	60	80	Good.	
74	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	6	1	20	15	80	80	Good.	
75	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	8	2	22	15	40	60	Fair. Weak attachments at the main stem union.	

76	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	6	2	18	11	60	60	Fair. Weak attachments at the main stem union.
77	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	10	3	20	11	60	60	Fair. Weak attachments at the main stem union.
78	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	4	1	12	11	60	80	Good.
79	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	4	1	14	15	40	80	Good.
80	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	30	1	46	52	40	60	Fair. Weak attachments at the main stem union. Large dead branches.
81	*Quercus lobata*	Valley Oak	No Impact	Remove	Dead Tree	N/A	11	1	31	17	0	20	Very poor. Cracks and decay on the trunk. Large dead branches.
82	*Quercus lobata*	Valley Oak	No Impact	Remove	Dead tree	N/A	23	2	35	30	0	40	Poor. Large dead branches. Weak attachment at the main stem union.
83	*Quercus lobata*	Valley Oak	Low	Remove	Poor health and structure	N/A	10	1	18	15	20	40	Poor. Large dead branches. Weak attachment at the main stem union.
84	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	18	1	47	40	60	60	Fair. Weak attachment at the main stem union.	Mistletoe
85	*Robinia × ambigua 'Idahoensis'*	Idaho Locust	High	Remove	Within Construction Footprint		14	2	40	25	40	60	Fair. Weak attachment at the main stem union. Large dead branches.
86	*Robinia × ambigua 'Idahoensis'*	Idaho Locust	High	Remove	Within Construction Footprint		4	2	24	16	40	60	Fair. Weak attachment at the main stem	Main stem previously removed.

													union. Large dead branches.	
87	*Robinia × ambigua 'Idahoensis'*	Idaho Locust	High	Remove	Within Construction Footprint		13	3	35	25	40	60	Fair. Weak attachment at the main stem union. Large dead branches.	Previously a multi stem tree, 4 stems removed.
88	*Robinia × ambigua 'Idahoensis'*	Idaho Locust	High	Remove	Within Construction Footprint		6	2	20	15	40	60	Fair. Weak attachment at the main stem union. Large dead branches.	Previously a multi stem tree, 2 stems removed.
89	*Robinia × ambigua 'Idahoensis'*	Idaho Locust	High	Remove	Within Construction Footprint		7	1	36	16	40	60	Fair. Weak attachment at the main stem union. Large dead branches.	Previously a multi stem tree, 4 stems removed.
90	*Gleditsia triacanthos*	Honey Locust	No Impact	Preserve	N/A	Tree Protection Fencing, Signage, Crown cleaning	23	1	53	45	80	60	Fair. Large dead branches.	
91	*Quercus lobata*	Valley Oak	No Impact	Remove	Dead tree	N/A	44	1	55	70	0	40	Poor. Large dead branches. Previous large branch failure. Decay on the trunk.	
92	*Quercus lobata*	Valley Oak	Low	Remove	Poor health and structure	N/A	46	0	59	85	20	40	Poor. Large dead branches. Decay in the crown.	Bird nest
93	*Quercus lobata*	Valley Oak	Low	Preserve	N/A	Tree Protection Fencing, Signage, Crown cleaning	56	0	72	70	60	60	Fair. Weak attachment at the main stem union with decay. Large dead branches.	
94	*Platanus x hispanica*	London Plane tree	High	Remove	Within Construction Footprint	N/A	15	0	54	35	60	80	Good.	
95	*Platanus x hispanica*	London Plane tree	High	Remove	Within Construction Footprint	N/A	16	0	58	35	60	80	Good.	Hanging branches.
96	*Platanus x hispanica*	London Plane tree	High	Remove	Within Construction Footprint	N/A	16	1	56	35	60	80	Good.	

97	*Platanus x hispanica*	London Plane tree	High	Remove	Within Construction Footprint	N/A	22	1	60	55	60	80	Good.	Hanging branches.
98	*Platanus x hispanica*	London Plane tree	High	Remove	Within Construction Footprint	N/A	16	1	60	45	60	60	Fair. Overextended branches.	Hanging branches.
99	*Quercus lobata*	Valley Oak	High	Remove	Within Construction Footprint	N/A	20	1	50	45	80	60	Fair. Weak attachments at the main stem union and branch unions. Large dead branches.	Hanging branches.
100	*Quercus lobata*	Valley Oak	High	Remove	Within Construction Footprint	N/A	15	1	45	33	90	80	Good.	
101	*Quercus lobata*	Valley Oak	High	Remove	Within Construction Footprint	N/A	15	1	46	40	60	80	Good.	
102	*Quercus lobata*	Valley Oak	High	Remove	Within Construction Footprint	N/A	27	1	53	55	90	60	Fair. large dead branches.	
103	*Platanus x hispanica*	London Plane tree	High	Remove	Within Construction Footprint	N/A	18	1	60	45	60	80	Good.	
104	*Platanus x hispanica*	London Plane tree	High	Remove	Within Construction Footprint	N/A	15	1	55	35	60	80	Good.	
105	*Quercus lobata*	Valley Oak	Moderate	Preserve	N/A	Tree Protection Fencing, Signage, Crown cleaning	30	1	56	60	80	60	Fair. Large dead branches.	Veg fire damage to lower crown. Mistletoe.
106	*Quercus agrifolia*	Coast Live Oak	Moderate	Preserve	N/A	Tree Protection Fencing, Signage	8	1	24	15	80	80	Good.	Veg fire damage to lower crown. Not tagged behind fence.
107	*Quercus wislizeni*	Interior Live Oak	Low	Preserve	N/A	Tree Protection Fencing, Signage	58	5	47	40	80	80	Good.	Veg fire damage to lower crown. Not tagged behind fence. DSH estimated.
108	*Quercus lobata*	Valley Oak	Low	Preserve	N/A	Tree Protection Fencing, Signage	18	1	64	30	80	60	Fair. Unbalanced crown.	Not tagged behind fence. DSH estimated.

109	*Quercus lobata*	Valley Oak	Low	Preserve	N/A	Tree Protection Fencing, Signage	36	3	60	30	80	60	Fair. Unbalanced crown.	Not tagged behind fence. DSH estimated.
110	*Quercus wislizeni*	Interior Live Oak	Low	Preserve	N/A	Tree Protection Fencing, Signage	26	2	43	25	80	60	Fair. Unbalanced crown. Weak attachment at the main stem union.	Not tagged behind fence. DSH estimated.
111	*Quercus lobata*	Valley Oak	Low	Preserve	N/A	Tree Protection Fencing, Signage	18	1	50	35	60	80	Good.	Not tagged behind fence. DSH estimated.
112	*Quercus lobata*	Valley Oak	Low	Preserve	N/A	Tree Protection Fencing, Signage	30	1	65	55	80	60	Fair. Weak attachments at the main stem union.	Damage to the lower crown from recent Veg fire.
113	*Quercus lobata*	Valley Oak	Low	Preserve	N/A	Tree Protection Fencing, Signage	28	2	50	55	60	80	Good.	Not tagged behind fence. DSH estimated.
114	*Quercus lobata*	Valley Oak	Low	Preserve	N/A	Tree Protection Fencing, Signage	25	2	59	40	60	80	Good.	
115	*Quercus lobata*	Valley Oak	Low	Preserve	N/A	Tree Protection Fencing, Signage	49	2	55	50	80	60	Fair. Unbalanced crown.	Not tagged, behind fence. DSH estimated.
116	*Quercus lobata*	Valley Oak	Low	Preserve	N/A	Tree Protection Fencing, Signage, Crown cleaning	30	2	60	50	60	60	Fair. Large dead branches.	Not tagged, behind fence. DSH estimated.
117	*Quercus lobata*	Valley Oak	Moderate	Preserve	N/A	Tree Protection Fencing, Signage, Crown cleaning	30	1	45	40	60	60	Fair. Large dead branches.	Not tagged, behind fence. DSH estimated.
118	*Fraxinus velutina 'Modesto'*	Modesto Ash	Moderate	Remove	Poor health and structure	N/A	22	1	16	14	20	20	Very poor. Decay in the trunk and root flare.	Not tagged, behind fence. DSH estimated.
119	*Fraxinus velutina 'Modesto'*	Modesto Ash	Moderate	Remove	Poor health and structure	N/A	22	1	36	35	80	20	Very poor. Decay in the trunk and root flare. Previous large branch failure	
120	*Fraxinus velutina 'Modesto'*	Modesto Ash	Moderate	Remove	Poor health and structure	N/A	30	1	35	35	80	20	Very poor. Decay in the crown, trunk, and root flare. Previous large branch failure	

121	*Fraxinus velutina 'Modesto'*	Modesto Ash	Moderate	Remove	Poor structure	N/A	30	1	65	55	60	40	Poor. Large dead branches. Previous large branch failure. Decay in the crown.
122	*Washingtonia filifera*	Mexican Fan Palm	Moderate	Preserve	N/A	Remove dead skirt	18	1	35	15	80	80	Good. Large dead skirt.
123	*Fraxinus velutina 'Modesto'*	Modesto Ash	Moderate	Remove	Poor structure	N/A	32	1	56	55	80	40	Poor. Large dead branches. Weak attachments. Decay and cavity in the trunk below the main union.
124	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	47	5	50	35	80	60	Fair. Weak attachments at the main stem union.
125	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	6	2	20	15	80	80	Good.
126	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	6	1	22	20	80	80	Good.
127	*Platanus x hispanica*	London Plane tree	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	14	1	54	40	80	80	Good.
128	*Platanus x hispanica*	London Plane tree	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	14	1	50	35	60	80	Good.
129	*Platanus x hispanica*	London Plane tree	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	13	1	50	30	80	80	Good.
130	*Platanus x hispanica*	London Plane tree	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	15	1	55	45	60	80	Good.
131	*Platanus x hispanica*	London Plane tree	Moderate	Preserve	N/A	Tree Protection Fencing, Signage	13	1	55	47	60	80	Good.
132	*Platanus x hispanica*	London Plane tree	Moderate	Preserve	N/A	Tree Protection Fencing, Signage	13	1	42	27	60	80	Good.
133	*Platanus x hispanica*	London Plane tree	Moderate	Preserve	N/A	Tree Protection Fencing, Signage	13	1	51	30	60	80	Good. Corrected lean.
134	*Platanus x hispanica*	London Plane tree	Moderate	Preserve	N/A	Tree Protection Fencing, Signage	13	1	54	27	40	80	Good. Hanging branches.
135	*Platanus x hispanica*	London Plane tree	Moderate	Preserve	N/A	Tree Protection Fencing, Signage	14	1	54	43	40	80	Good.
136	*Quercus lobata*	Valley Oak	Moderate	Preserve	N/A	Tree Protection Fencing, Signage	18	1	45	35	20	80	Good.

137	*Platanus x hispanica*	London Plane tree	No Impact	Preserve	N/A	Tree Protection Fencing, Signage, Crown Cleaning, remove poorly attached branches near treetop	13	1	24	12	60	40	Poor. Top died and broke off. Large dead area on the trunk. Weak attachments near top failure point.	
138	*Platanus x hispanica*	London Plane tree	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	16	1	53	47	60	60	Fair. Overextended branches.	
139	*Quercus wislizeni*	Interior Live Oak	Moderate	Preserve	N/A	Tree Protection Fencing, Signage	6	1	20	20	80	80	Good.	Growing into the fence.
140	*Quercus agrifolia*	Coast Live Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	12	1	26	25	80	80	Good.	
141	*Quercus agrifolia*	Coast Live Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	17	1	47	25	60	80	Good.	
142	*Quercus lobata*	Valley Oak	No Impact	Remove	Poor health and structure	N/A	12	1	38	30	20	40	Poor. Large dead branches. Large dead area on the trunk and root flare. Corrected lean.	
143	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	14	1	46	30	20	80	Good.	
144	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	15	1	45	40	60	60	Fair. Weak attachment at the main stem union.	
145	*Quercus agrifolia*	Coast Live Oak	No Impact	Preserve	N/A	Tree Protection Fencing, Signage	9	1	29	23	60	80	Good.	
146	*Quercus agrifolia*	Coast Live Oak	Low	Preserve	N/A	Tree Protection Fencing, Signage	31	2	29	40	80	80	Good.	
147	*Pyrus calleryana*	Callery Pear	No Impact	Remove	Dead tree	N/A	26	1	24	20	0	20	Very poor. Cracks and decay in the trunk. Large dead branches.	
148	*Quercus lobata*	Valley Oak	Moderate	Preserve	N/A	Tree Protection Fencing, Signage, Crown Cleaning	23	1	60	55	60	60	Fair. Large dead branches	
149	*Quercus lobata*	Valley Oak	Moderate	Preserve	N/A	Tree Protection Fencing, Signage	12	1	41	30	40	80	Good.	

150	*Quercus lobata*	Valley Oak	Moderate	Preserve	N/A	Tree Protection Fencing, Signage	13	1	40	30	40	80	Good.
151	*Pyrus calleryana*	Callery Pear	High	Remove	Poor health and structure, Within Development Footprint	N/A	12	1	39	25	20	60	Fair. Large dead branches.
152	*Pyrus calleryana*	Callery Pear	Moderate	Remove	Poor health and structure, Within Development Footprint	N/A	10	1	31	25	20	40	Poor. Large dead branches. Previous large branch failure. Weak attachments at the branch unions. Unbalanced crown
153	*Pyrus calleryana*	Callery Pear	Low	Preserve	N/A	Tree Protection Fencing, Signage, Crown Cleaning	20	4	33	25	40	60	Fair. Weak attachments at the branch unions. Large dead branches.
154	*Pyrus calleryana*	Callery Pear	No Impact	Remove	Poor health	N/A	7	1	25	20	20	60	Fair. Weak attachments at the branch unions. Large dead branches.
155	*Pyrus calleryana*	Callery Pear	Low	Preserve	N/A	Tree Protection Fencing, Signage, Crown Cleaning	22	1	30	20	40	60	Fair. Weak attachments at the branch unions. Large dead branches.
156	*Pyrus calleryana*	Callery Pear	Low	Preserve	N/A	Tree Protection fencing, signage.	9	1	27	20	60	60	Fair. Weak attachments at the branch unions.
157	*Ailanthus altissima*	Tree of Heaven	Moderate	Remove	Invasive Species, Within development Footprint	N/A	9	3	16	15	80	80	Good	Previously cut off at 2 ft above ground.

158	*Ailanthus altissima*	Tree of Heaven	Moderate	Remove	Invasive Species, Within development Footprint	N/A	7	3	15	15	80	80	Good	
PT 1	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection fencing, signage.	1	1	3	2	80	80	Good	Recently planted tree.
PT 10	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection fencing, signage.	3	1	13	12	80	80	Good	Recently planted tree.
PT 11	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection fencing, signage.	3	1	12	10	80	80	Good	Recently planted tree.
PT 12	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection fencing, signage.	3	1	14	10	80	80	Good	Recently planted tree.
PT 13	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection fencing, signage.	3	1	14	12	80	80	Good	Recently planted tree.
PT 14	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection fencing, signage.	2	1	10	10	80	80	Good	Recently planted tree.
PT 15	*Quercus wislizeni*	Interior Live Oak	No Impact	Preserve	N/A	Tree Protection fencing, signage.	2	1	12	12	80	80	Good	Recently planted tree.
PT 16	*Quercus wislizeni*	Interior Live Oak	No Impact	Preserve	N/A	Tree Protection fencing, signage.	2	1	12	10	80	80	Good	Recently planted tree.
PT 2	*Quercus agrifolia*	Coast Live Oak	No Impact	Preserve	N/A	Tree Protection fencing, signage.	2	1	8	4	80	80	Good	Recently planted tree.
PT 3	*Quercus agrifolia*	Coast Live Oak	No Impact	Preserve	N/A	Tree Protection fencing, signage.	2	1	7	4	80	80	Good	Recently planted tree.
PT 4	*Quercus lobata*	Valley Oak	No Impact	Remove	Dead tree	N/A	2	1	7	4	0	80	Good	Recently planted tree.
PT 5	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection fencing, signage.	2	1	10	7	60	80	Good	Recently planted tree.
PT 6	*Quercus wislizeni*	Interior Live Oak	No Impact	Preserve	N/A	Tree Protection fencing, signage.	2	1	7	10	80	80	Good	Recently planted tree.
PT 7	*Quercus wislizeni*	Interior Live Oak	No Impact	Preserve	N/A	Tree Protection fencing, signage.	2	1	7	12	80	80	Good	Recently planted tree.
PT 8	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection fencing, signage.	3	1	12	12	80	80	Good	Recently planted tree.
PT 9	*Quercus lobata*	Valley Oak	No Impact	Preserve	N/A	Tree Protection fencing, signage.	3	1	15	12	80	80	Good	Recently planted tree.

Attachment E
Tree Impact Map



SOURCE: Bing Imagery 2021, Architect O. Dey 2022

DUDEK

FIGURE 4
Tree Impacts
Renfree Field At Del Paso Regional Park

APPENDIX D

Cultural Resources Technical Report

APPENDIX D

Cultural Resources Technical Report



Cultural Resources Technical Report for the Renfree Field Improvements Project, Sacramento, Sacramento County, California

AUGUST 2023

PREPARED FOR

City of Sacramento

Department of Youth, Parks & Community Enrichment

PREPARED BY

SWCA Environmental Consultants

CULTURAL RESOURCES TECHNICAL REPORT FOR THE RENFREE PARK IMPROVEMENT PROJECT SACRAMENTO, SACRAMENTO COUNTY, CALIFORNIA

Prepared for

City of Sacramento
Department of Youth, Parks & Community Enrichment
915 I Street, 3rd Floor
Sacramento, California 95814
Attn: Dennis S. Day, Project Manager / Landscape Architect

Prepared by

Sayre Borden, B.A.; Brandon Foster, M.A.; and Dan Herrick, M.H.C.

Principal Investigators

Dan Herrick, M.H.C.; Christina Alonso, M.A. RPA; and Garret Root, M.A.

SWCA Environmental Consultants
6355 Riverside Boulevard, Suite C
Sacramento, California 95831
(916) 427-0703
www.swca.com

SWCA Project No. 74845

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CONTENTS

Introduction **1**
Methodology 1
Project Description **2**
Project Location 2
Project Description 2
Regulatory Framework **10**
Federal 10
National Historic Preservation Act of 1966 10
National Register of Historic Places 10
Secretary of the Interior's Standards for the Treatment of Historic Properties 11
State 12
California Environmental Quality Act 12
California Register of Historical Resources 13
Treatment of Human Remains 15
Local 15
City of Sacramento Historic Preservation Ordinance 15
Sacramento Register of Historic-Cultural Resources 15
City of Sacramento 2035 General Plan 16
City of Sacramento Department of Youth, Parks & Community Enrichment Planning Documents 17
Pre-Contact Context **18**
Early Horizon/Windmiller Pattern (2500–500 B.C.) 19
Middle Horizon/Berkeley Pattern (500 B.C.–A.D. 500) 19
Augustine Pattern (A.D. 500–1769) 20
Ethnographic Context **20**
Development of Sacramento 22
Del Paso and North Sacramento 24
Parks and Recreation in Sacramento 26
Early Plazas, Public Parks, and Pleasure Grounds (1845–1901) 26
Municipal Parks and Public Recreation (1905–1941) 28
Postwar Parks and Recreation (1945–Present) 30
Property History **32**
Del Paso Regional Park 32
Harry Renfree Field 35
Identification of Cultural Resources **39**
North Central Information Center Records Search 39
Previous Cultural Resource Studies 39
Previously Recorded Cultural Resources 40
Native American Heritage Commission Sacred Lands File Search 40
Field Investigations 41
Archaeological Resources 41
Historical Resources 43
Properties within the Project Area 51
Previously Identified Resources 51

Resources Requiring Evaluation 51
Impacts Assessment 55
Archaeological and Tribal Cultural Resources 55
Historical Resources 56
Mitigation Measures 56
Archaeological Resource Mitigation Measures 57
Tribal Cultural Resources 58
Conclusion 61
References Cited 62

Appendices

Appendix A. NCIC Records Search Results
Appendix B. NAHC Sacred Land Files Search Request Response
Appendix C. SWCA Request for Information Letters to Tribal Representatives
Appendix D. SWCA Call Log for Native American Outreach Efforts
Appendix E. California DPR 523 Series Forms for Renfree Field Prepared by SWCA

Figures

Figure 1. Project location. 4
Figure 2. Project area. 5
Figure 3. Existing conditions of the project area. 6
Figure 4. Project proposed site plan. 7
Figure 5. Project proposed landscaping plan 8
Figure 6. Renfree Field Improvement Project site plan with ground disturbing activity location and depth of disturbance overlay. 9
Figure 7. 1874 surveyor's map of the city of Sacramento, California. The public squares associated with the original 1849 plan for the city have been outlined in blue. Source: California State Railroad Museum and Archives. 23
Figure 8. Ca. 1940 map of North Sacramento and vicinity; note the "Sacramento City Park" area at the top-right corner, which corresponds with present-day Del Paso Park. Source: Center for Sacramento History. 25
Figure 9. Ca. 1890 photograph of Plaza Park, now Cesar Chavez Park in downtown Sacramento. Source: Sacramento Public Library. 26
Figure 10. 1905 photograph of Winn Park in Sacramento. Source: University of California, Berkeley. 26
Figure 11. 1905 photograph of Marshall Park in Sacramento. Source: University of California, Berkeley Bancroft Library. 28
Figure 12. 1912 photograph of three women overlooking the lake at McKinley Park. Source: Center for Sacramento History. 28
Figure 13. Ca. 1915 photograph of Southside Park, Sacramento. Source: Center for Sacramento History. 29
Figure 14. 1939 aerial photograph of the southwest corner of William Land Park, view north. Source: Center for Sacramento History. 30

Figure 15. Little league game at Tahoe Park, 1960. Source: Center for Sacramento History. 31
Figure 16. Excerpted portion of a 1916 map of suburbs in the North Sacramento area, showing the City-owned park property that would become Del Paso Park. Source: California State Library, California History Room. 32
Figure 17. 1937 photograph of Auburn Boulevard extending alongside Del Paso Park. Source: City of Sacramento Public Library. 33
Figure 18. Excerpt from a 1940 sketch map of North Sacramento, illustrating Del Paso Park and some of its facilities and amenities. Source: City of Sacramento Public Library. 34
Figure 19. 1971 aerial photograph showing Renfree Field soon after completion. Note the clubhouse building and clearly defined bleachers, dugout spaces, clubhouse and press box building, and restrooms; north is up. Source: UCSB 2023; Frame Finder, Flight CAS_3069, Frame 4-167. 35
Figure 20. 2011 satellite image of Renfree Field, illustrating the conditions when it retained the original buildings and bleachers and was in continued use for baseball. Source: Google Earth Pro. 36
Figure 21. 2022 satellite image showing existing conditions at Renfree Field. Source: Google Earth Pro. 37
Figure 22. 1970 portrait of Sal Gomez for the Sacramento Metropolitan Chamber of Commerce. Source: Center for Sacramento History, Catalog No.2001/059/0220. 38
Figure 23. 1961 photograph of the La Fiesta Mexicatessen located at 9th and X Streets. Source: Center for Sacramento History. 39
Figure 24. Ca.1955 photograph of the La Fiesta Mexicatessen restaurant located at 510 Capital Avenue in downtown Sacramento. Source: Center for Sacramento History. 39
Figure 25. Overview of the west portion of the project area, view south towards Auburn Boulevard. 42
Figure 26. North section of the west portion of the project area with informal walking path and evidence of vehicles, view southwest. 42
Figure 27. Overview of the surface parking lot, view north. 42
Figure 28. Overview of the baseball diamond and facilities at Renfree Field, view northwest. 42
Figure 29. North end of the west portion of the project area with a dirt path, view east. 43
Figure 30. North periphery of the west portion of the project area, view east. 43
Figure 31. The project area with Renfree Field in the background, view facing northeast from Auburn Boulevard. 43
Figure 32. View south through the project area along Bridge Road. 44
Figure 33. Bridge Road and the bridge crossing at Arcade Creek, view south from the intersection at Park Drive. 44
Figure 34. Overview of the western portion of the project area, view south from Bridge Road. 44
Figure 35. Overview of the eastern portion of the project area, view northeast from Auburn Boulevard. 44
Figure 36. Surface parking lot with Renfree Field, view northeast. 45
Figure 37. Baseball diamond at Renfree Field with backstop at center, view northeast. 45
Figure 38. Renfree Field home plate and backstop, view southwest. 46
Figure 39. Typical chain-link fencing, lighting, and foul ball post at Renfree Field's left field, view north. 46
Figure 40. Concrete pad and dugout bench at southwest corner of Renfree Field, view south. 47
Figure 41. Renfree Field's center field with outfield lighting and scoreboard, view northeast. 47
Figure 42. Renfree Field scoreboard located in the outfield, view northeast. 48
Figure 43. Overview of the Renfree Field outfield, view east. 48
Figure 44. Utility Shed located north of Renfree Field, view southeast. 49

Figure 45. Renfree Field playground located south of Renfree Field, view east. 49
Figure 46. Pathway between the Renfree Field Playground (background) and the southeast adjacent surface parking lot, view west. 50
Figure 47. Entrance to the Renfree Field Playground surface parking lot, view north from Auburn Boulevard. 50
Figure 48. Pumphouse and aboveground storage tank at the northeast corner of the project area, view east. 50

Tables

Table 1. Previous Studies within 0.25 Mile of the Project Area 40
Table 2. Previously Recorded Cultural Resources in the Project Area 40

INTRODUCTION

SWCA Environmental Consultants (SWCA) was contracted by the City of Sacramento (City) to prepare this Cultural Resources Technical Report on behalf of the City's Department of Youth, Parks & Enrichment (YPCE) in support of the proposed Renfree Field Improvements Project (project), located within the Del Paso Regional Park at the northeast corner of the city's boundaries. The proposed project involves the redevelopment of a segment of the park, including the demolition of Harry Renfree Field (Renfree Field), and the construction of new sport playing fields, other recreational facilities, and associated improvements.

This report was prepared in support of the project in addressing potential impacts to cultural resources, as defined and required under the California Environmental Quality Act (CEQA). This report was also prepared in support of planning, permitting, and approvals processes through the City, which is the lead agency for the purposes of review and compliance under CEQA.

Methodology

To identify cultural resources and assess potential impacts under CEQA, SWCA architectural historians and archaeologists that meet the Secretary of the Interior's Professional Qualification Standards prepared this report, which provides narrative description of the project area's existing conditions, outlines relevant historic contexts, provides a summary of previous studies and pedestrian survey efforts, and includes an evaluation of historical significance of Renfree Field for individual listing in the California Register of Historical Resources (CRHR), designation as a Sacramento Landmark, and listing in the Sacramento Register of Historic Cultural Resources (Sacramento Register). The documentation and evaluation of these buildings is presented within this report, as well as accompanying California Department of Parks and Recreation (DPR) 523 series forms.

To inform this report, SWCA performed an in-house records search of the California Historical Resources Information System (CHRIS) at the North Central Information Center (NCIC), located at California State University, Sacramento, on December 5, 2022. The search included previous cultural resource studies and archaeological resources and historical resources within the project site and surrounding 0.25-mile area. SWCA also contacted the California Native American Heritage Commission (NAHC) and requested a search of the Sacred Lands File (SLF) on November 22, 2022. On December 13, 2022, the NAHC responded stating that the SLF search had produced positive results, noting the presence of known sensitive sites within the project site or within the Rio Linda, California U.S. Geological Survey (USGS) 7.5-minute quadrangle. On January 27, 2023, SWCA submitted letters to the 10 tribal representatives identified on the NAHC list. These letters provided a general project description, associated project location maps, and a request for additional information regarding potential cultural resources located within the project area. Additional follow-up efforts by SWCA have been undertaken since the submission of the original information requests.

On December 7, 2022, SWCA conducted a pedestrian survey of the 8.33-acre project area, during which the property was documented extensively using digital photographs. The SWCA archaeologist walked the project area performing boot scrapes in areas of exposed soils, whereas the SWCA architectural historian focused specifically on documenting the existing conditions of the built environment, namely the recreational facilities and overall park landscape of the project area.

In preparing the original contexts and property histories, SWCA reviewed property-specific historical information and ethnographic literature to identify relevant background for the project area and its historical inhabitants. Research focused on a variety of primary and secondary materials, including

historical maps, aerial photographs, ethnographic reports, and technical reports prepared for the project. Sources and repositories consulted include the U.S. Bureau of Land Management General Land Office and USGS for historical topographic maps and geological surveys of the area, the Center for Sacramento History, the City of Sacramento Public Library, the California State Library California History Room, and a variety of online source materials, including the Online Archive of California, Newspapers.com, and Ancestry.com, among others.

PROJECT DESCRIPTION

Project Location

The proposed project is located within the larger Del Paso Regional Park (Del Paso Park) in the northeast corner of the city of Sacramento. Del Paso Park is an approximately 630-acre, multi-use park and includes the baseball diamond and playing field, Renfree Field.

The project area is approximately 8.33 acres and is located at 3615 Auburn Boulevard, on the western portion of Sacramento County Assessor's Parcel Number (APN) 240-0342-011, an approximately 76-acre parcel. The project area is bisected north–south by Bridge Road, which connects Auburn Boulevard to Park Drive. Overall, it is bound by Arcade Creek and Park Road to the north, the open space of the northeastern-most portion of Del Paso Park to the east, Auburn Boulevard to the south, and the former Discovery Museum Science & Space Center (Discovery Museum) to the west (Figure 1 and Figure 2).

Project Description

The project area, which includes Renfree Field, is currently developed as a public park with a baseball field, a playground, and two parking lots, including a 126-space parking lot on the west side accessed via Auburn Boulevard and Bridge Road and a 21-space parking lot on the east side of Renfree Field accessed directly from Auburn Boulevard (Figure 3). The project area contains a walking trail and an equestrian trail loop that connects to the larger Del Paso Park.

The proposed project would renovate Renfree Field with two baseball fields (Field 1 and Practice Field 2) with an overlapping outfield area along the existing baseball field's first base line between the play structure and eastern parking lot. Practice Field 2 would be located north of the eastern parking lot and would have 30-foot backstop fencing. A 210-foot-by-330-foot soccer field would be striped and overlap in the outfield area. Associated infrastructure such as bleachers, bullpens, shaded dugouts, lighting, and connecting sidewalks would be replaced (Figure 4 and Figure 5).

The northern portion of the western parking lot would be redesigned to include a full-sized asphalt basketball court and four pickleball courts with benches and fencing. The southern portion of the existing western parking lot would be redesigned to accommodate an approximately 77-space vehicle parking lot with two-way access via Bridge Road. A parking gate would be placed at the entry and a bio-swale would be sited to provide stormwater filtration prior to entering the storm drain. The proposed on-site walkway and right-of-way improvements along the north side of Auburn Boulevard would extend from the east at the existing children's playground west across Bridge Road to the edge of the Owl Creek riparian area and would connect the new and existing park features. The proposed project would also include new lighting for the walkway, parking lot, sports courts, and baseball fields. New lighting for the baseball fields would replace the existing light towers and would be oriented along the perimeter of the field to accommodate lighting for the two baseball fields and soccer field. There would be approximately eight

new sports light posts and each would be approximately 60 feet tall (roughly the same height as the existing light towers that would be removed).

There are existing utilities within the adjacent roadway network along Auburn Boulevard and Bridge Road. Existing utilities in proximity to the project site include natural gas, water, sewer, and telecommunications service. The existing Renfree Field and associated park features such are currently served by public utilities. The proposed project includes the extension/upgrade of utilities for electricity, domestic and irrigation water services, and storm drainage.

The proposed project would remove approximately 21 trees throughout the site for reasons including poor health, structural defects, or location within the proposed development footprint.[1] To mitigate the loss of the trees, the City would be required to plant replacement trees.

To construct the project, the site will require regrading and excavations of varying depths throughout the site (Figure 6). Ground disturbing activities and associated depths of disturbances are as follows:

- Four-foot-deep excavations would be required for light posts throughout the parking lots, and sport post footings. Sport post footings include nets for pickleball and hoops for basketball.
- Three-foot-deep excavations would be required for fencing around the bullpens at Field 1 and pickleball courts. The dugouts, bullpens and pickleball courts would be fenced with six- or eight-foot fencing.
- Two-to-three-foot-deep excavations would be required for the grating, utility and irrigation trenching for the outfield light posts.
- Nine-foot-deep excavations would be required for the 30-foot fencing and backboards along the southern extent of the two baseball fields.
- Three-foot-deep excavations would be required for the four-foot outfield fencing.

[1] Dudek, 2022. Del Paso Park Renfree Field Improvements - Arborist Report. November 2022.

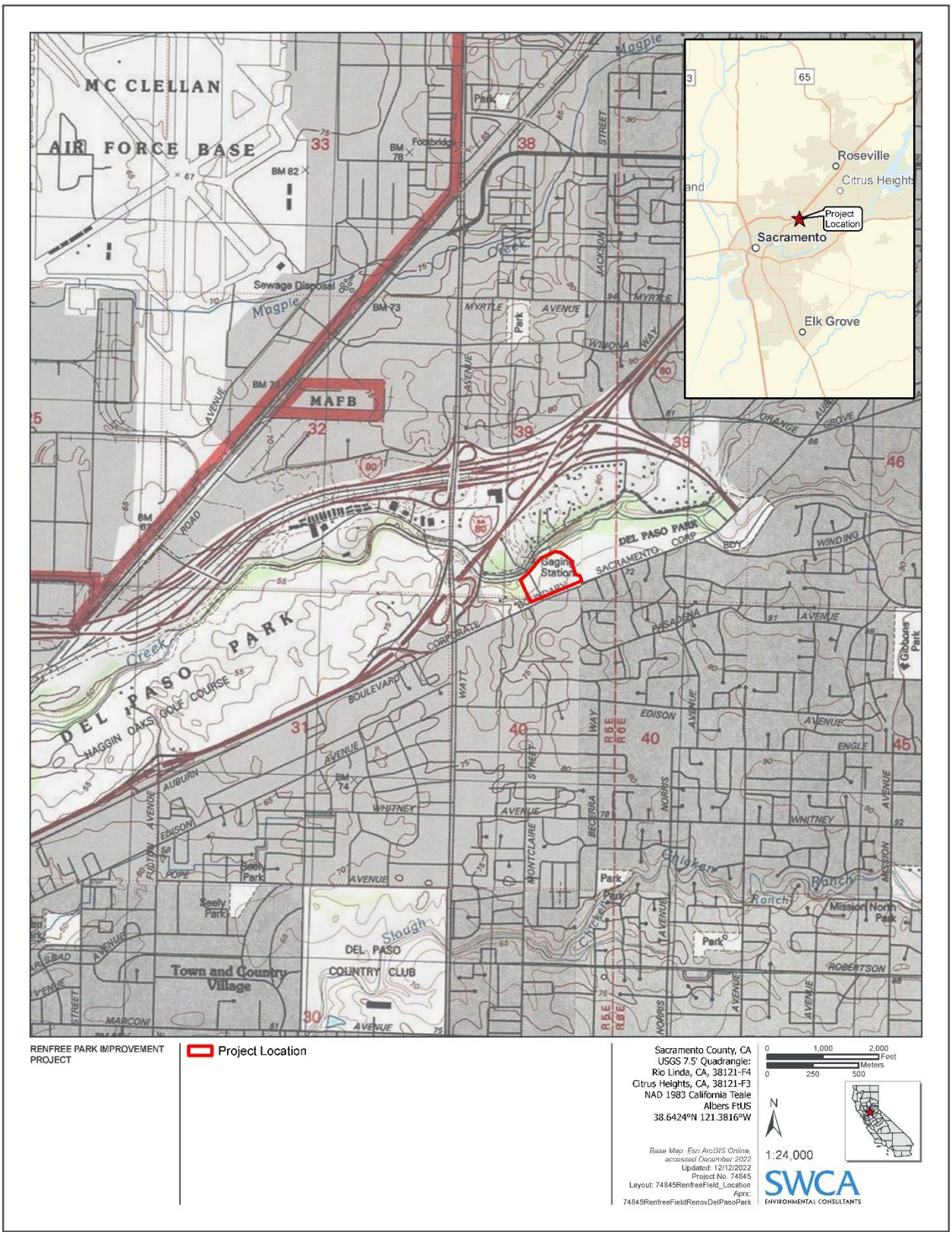


Figure 1. Project location.



Figure 2. Project area.



Figure 3. Existing conditions of the project area.

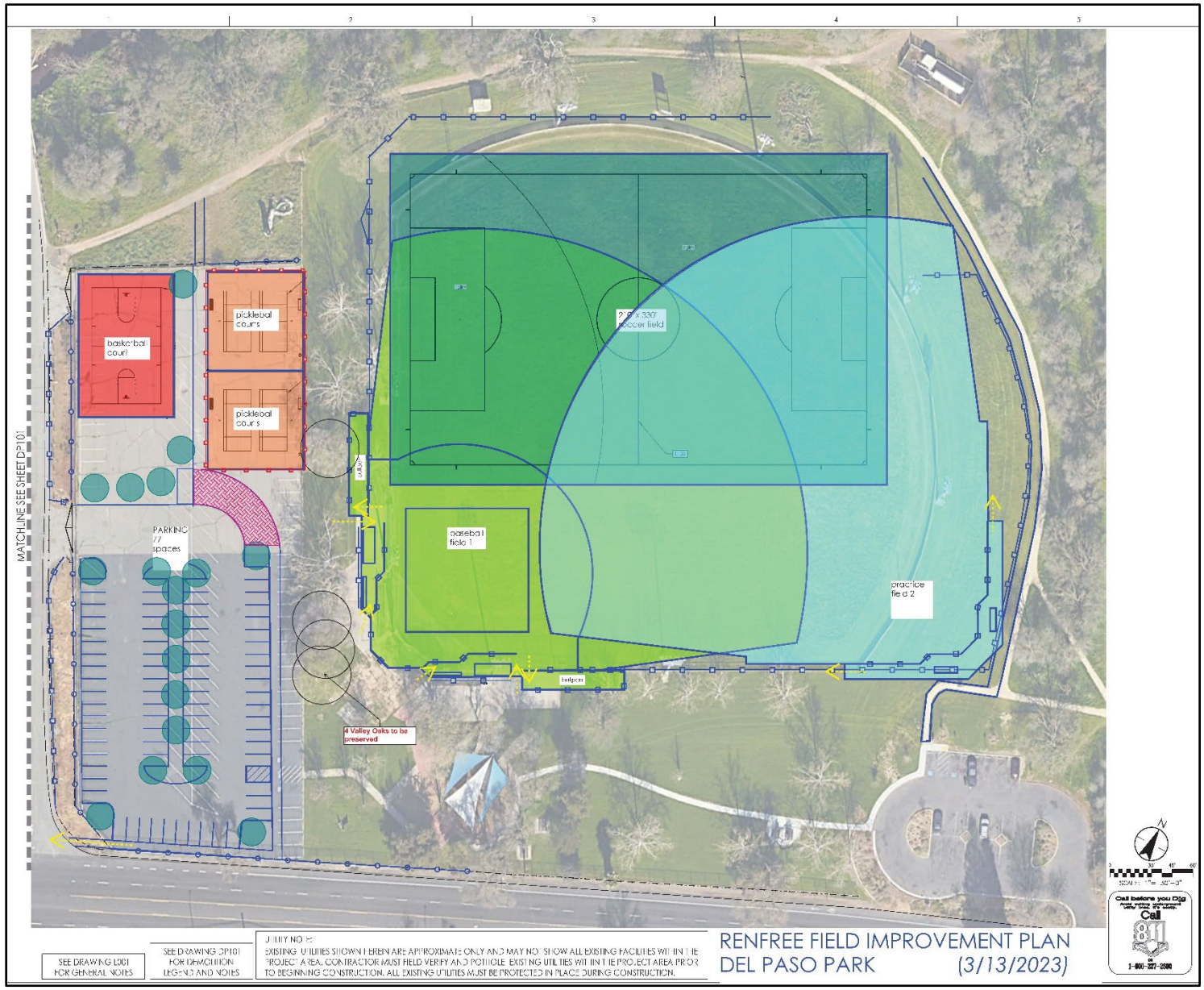


Figure 4. Project proposed site plan.

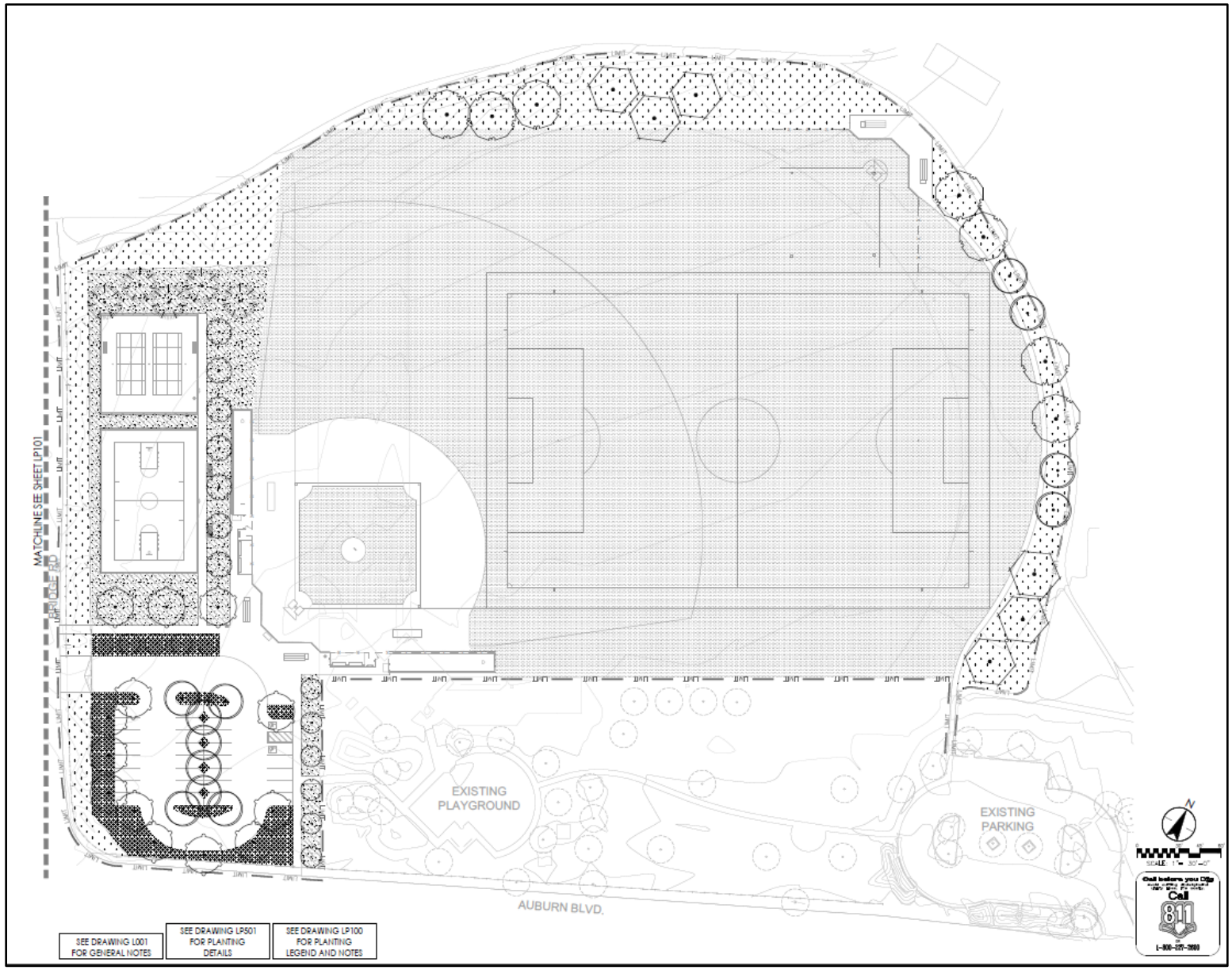


Figure 5. Project proposed landscaping plan

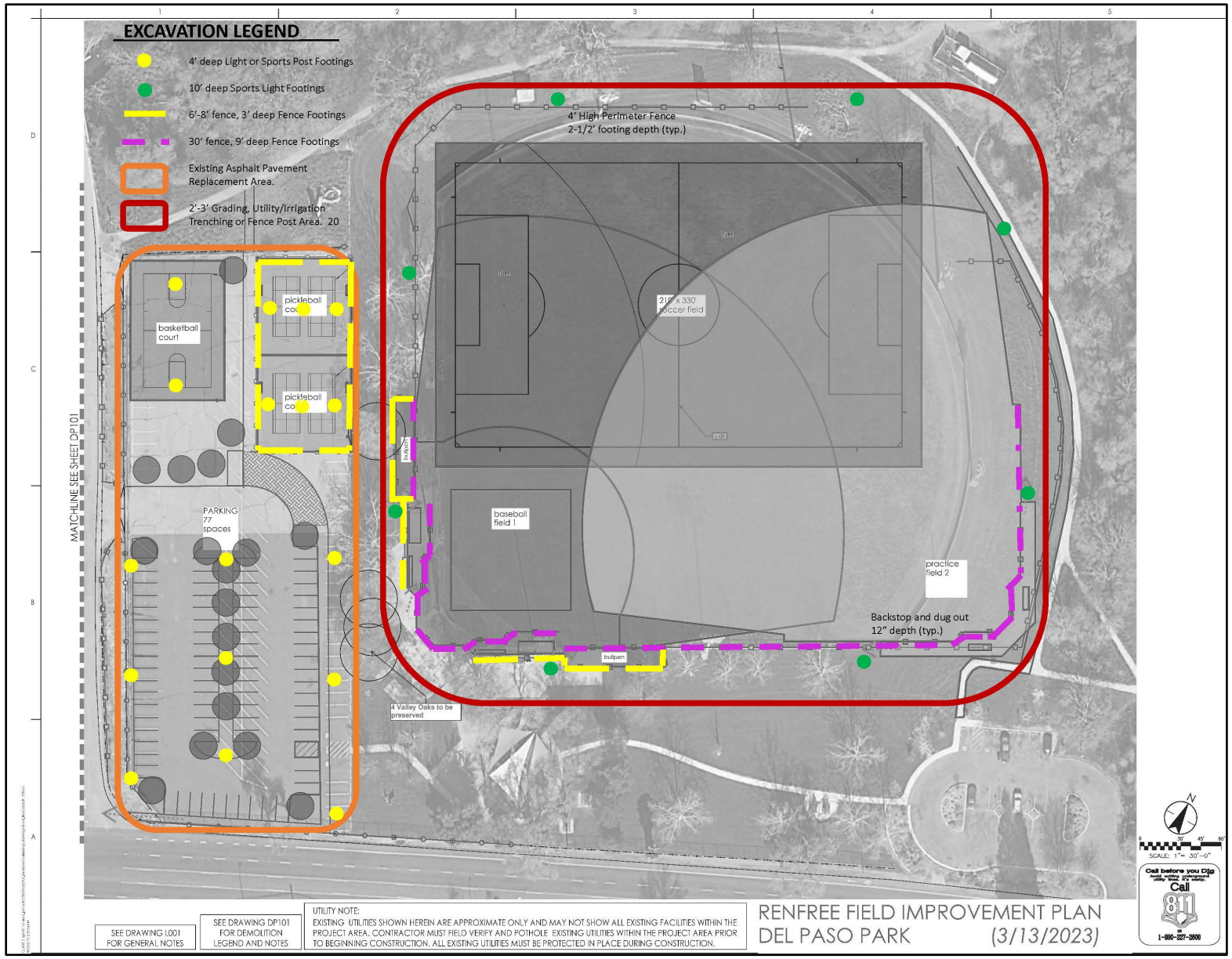


Figure 6. Renfree Field Improvement Project site plan with ground disturbing activity location and depth of disturbance overlay.

REGULATORY FRAMEWORK

Federal

National Historic Preservation Act of 1966

Enacted in 1966 and amended in 2000, the National Historic Preservation Act (NHPA) instituted a multifaceted program, administered by the Secretary of the Interior, to encourage sound preservation policies of the nation's cultural resources at the federal, state, and local levels. The NHPA authorized the expansion and maintenance of the National Register of Historic Places (NRHP), established the position of State Historic Preservation Officer and provided for the designation of State Review Boards, set up a mechanism to certify local governments to carry out the goals of the NHPA, assisted Native American tribes to preserve their cultural heritage, and created the Advisory Council on Historic Preservation (ACHP).

National Register of Historic Places

The NRHP was established by the NHPA of 1966 as "an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment" (36 Code of Federal Regulations [CFR] 60.2). The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it is significant under one or more of the following criteria:

- **Criterion A**: It is associated with events that have made a significant contribution to the broad patterns of our history;
- **Criterion B**: It is associated with the lives of persons who are significant in our past;
- **Criterion C**: It embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction; and/or
- **Criterion D**: It has yielded, or may be likely to yield, information important in prehistory or history. Ordinarily, cemeteries, birthplaces, or graves of historic figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, and properties that are primarily commemorative in nature, are not considered eligible for the NRHP, unless they satisfy certain conditions. In general, a resource must be 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

In addition to meeting these criteria, a property must retain historic integrity, which is defined in National Register Bulletin 15 as the "ability of a property to convey its significance" (National Park Service [NPS] 1997:44). In order to assess integrity, the NPS recognizes seven aspects or qualities that, considered together, define historic integrity.

To retain integrity, a property must possess several, if not all, of these seven qualities, which are defined in the following manner in National Register Bulletin 15:

- **Location:** the place where the historic property was constructed or the place where the historic event occurred;
- **Design:** the combination of elements that create the form, plan, space, structure, and style of a property;
- **Setting:** the physical environment of a historic property;
- **Materials:** the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- **Workmanship:** the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
- **Feeling:** a property's expression of the aesthetic or historic sense of a particular period of time; and
- **Association:** the direct link between an important historic event or person and a historic property.

Certain properties, which are not typically considered eligible for listing the NRHP, have specific criteria considerations that must be met in addition to exhibiting significance per the established criteria outlined above (NPS 1997:25). These Criteria Considerations include the following:

a. *Religious Properties* that derive primary significance from architectural or artistic distinction or historical significance;

b. *Moved Properties*, meaning a building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event;

c. *Birthplaces or Graves* of historical figures of outstanding importance if there are no appropriate sites or buildings directly associated with their productive lives;

d. *Cemeteries* that derive primary significance of persons of transcendent importance, from age, from distinctive design features, or from association with historic events;

e. *Reconstructed Properties* when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived;

f. *Commemorative Properties* if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or

g. *Properties that have achieved significance within the last 50 years*, meaning that it of exceptional importance.

Secretary of the Interior's Standards for the Treatment of Historic Properties

Administered by the NPS and codified in 36 CFR Part 68, the Secretary of the Interior's Standards for the Treatment of Historic Properties (the Standards) are the established framework by which projects pertaining to historic buildings, structures, sites, and other resource types are reviewed. In addition to serving as the foundation by which federal agencies assess how a project may affect historic properties, the Standards have been adopted by state and municipal entities throughout the United States for similar analytical applications.

The Standards outline four potential treatment approaches that pertain to distinct project types and applications (36 CFR 68.2). The four treatments include the following:

- **Preservation:** the act or process of applying measures necessary to sustain the existing corm, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction.
- **Rehabilitation:** the act or process of making possible an efficient compatible use for a property through repair, alterations, and additions while preserving those portions or features that convey its historical, cultural, or architectural values.
- **Restoration:** the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.
- **Reconstruction:** the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

Each treatment approach has its own unique collection of individual standards related to maintaining, repairing, or replacing historic materials and can be applied to all types of historic properties.

State

California Environmental Quality Act

CEQA requires a lead agency to analyze whether historic resources may be adversely impacted by a proposed project. Under CEQA, a "project that may cause a substantial adverse change in the significance of a historic resource is a project that may have a significant effect on the environment" (California Public Resources Code [PRC] Section 21084.1). Answering this question is a two-part process: first, the determination must be made as to whether the proposed project involves cultural resources; second, if cultural resources are present, the proposed project must be analyzed for a potential "substantial adverse change in the significance" of the resource.

According to State CEQA Guidelines Section 15064.5, for the purposes of CEQA, historic resources are:

1. A resource listed in, or formally determined eligible for listing in, the CRHR (PRC Section 5024.1; 14 California Code of Regulations [CCR] Section 4850 et seq.);
2. A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significance in a historic resources survey meeting the requirements of PRC Section 5024.1(g); and
3. Any building, structure, object, site, or district that the lead agency determines eligible for national, state, or local landmark listing; generally, a resource shall be considered by the lead agency to be historically significant (and therefore a historic resource under CEQA) if the resource meets the criteria for listing in the CRHR (as defined in PRC Section 5024.1; 14 CCR Section 4852).

According to CEQA, the fact that a resource is not listed in or determined eligible for listing in the CRHR or is not included in a local register or survey shall not preclude the lead agency from determining that the resource may be a historical resource (PRC Section 5024.1). Pursuant to CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource may have a significant effect on the environment (State CEQA Guidelines Section 15064.5(b).

California Register of Historical Resources

Created in 1992 and implemented in 1998, the CRHR is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 21083.2 and 21084.1). Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historical resources surveys or designated by local landmarks programs, may be nominated for inclusion in the CRHR. According to PRC Section 5024.1(c), a resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria, which are modeled on NRHP criteria:

- **Criterion 1:** It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- **Criterion 2:** It is associated with the lives of persons important in our past.
- **Criterion 3:** It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- **Criterion 4:** It has yielded, or may be likely to yield, information important in history or prehistory.

Resources nominated to the CRHR must retain enough of their historic character or appearance to convey the reasons for their significance, known as integrity. Aspects of integrity assessed when determining potential eligibility include location, setting, materials, design, workmanship, feeling, and association.

ARCHAEOLOGICAL RESOURCES

In terms of archaeological resources, PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If it can be demonstrated that a proposed project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (PRC Sections 21083.2(a), (b), and (c)). CEQA notes that, if an archaeological resource is neither a unique archaeological resource nor an historical resource, the effects of the project on those resources shall not be considered to be a significant effect on the environment (State CEQA Guidelines Section 15064.5[c][4]).

CALIFORNIA STATE ASSEMBLY BILL 52

Assembly Bill (AB) 52 of 2014 amended PRC Section 5097.94 and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3.

Consultation with Native Americans

AB 52 establishes a formal consultation process for California tribes in the CEQA process, requiring the lead agency to initiate consultation with California Native American groups that are traditionally and of a decision to undertake a project or determination that a project is complete (e.g., prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report), lead agencies are required to notify tribes who previously requested placement on the notification list. Such notification will be in writing and will include, at a minimum, a brief description of the project, lead agency contact information, and notice that receipt of the letter serves as the initiation of a 30-day comment/response period. Consultation will occur at the Tribe's request, and mitigation measures agreed upon during this consultation will be included in the environmental documentation. Consultation may be considered concluded when parties agree to mitigation measures to avoid a significant effect on a Tribal Cultural Resource (see following subsection) or when, after a reasonable effort, a party, in good faith, determines that mutual agreement cannot be reached.

Tribal Cultural Resources

Section 4 of AB 52 adds Sections 21074(a) and (b) to the PRC, which address tribal cultural resources and cultural landscapes. Section 21074(a) defines tribal cultural resources as one of the following:

> (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
>
> (A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.
>
> (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
>
> (2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Section 1(a)(9) of AB 52 establishes that "a substantial adverse change to a tribal cultural resource has a significant effect on the environment." Effects on tribal cultural resources should be considered under CEQA. Section 6 of AB 52 adds Section 21080.3.2 to the PRC, which states that parties may propose mitigation measures "capable of avoiding or substantially lessening potential significant impacts to a tribal cultural resource or alternatives that would avoid significant impacts to a tribal cultural resource." Further, if a California Native American tribe requests consultation regarding project alternatives, mitigation measures, or significant effects to tribal cultural resources, the consultation shall include those topics (PRC Section 21080.3.2(a)). The environmental document and the mitigation monitoring and reporting program (where applicable) shall include any mitigation measures that are adopted (PRC Section 21082.3(a)).

Treatment of Human Remains

The disposition of burials falls first under the general prohibition on disturbing or removing human remains under California Health and Safety Code Section 7050.5. More specifically, remains suspected to be Native American are treated under CEQA at CCR Section 15064.5; PRC Section 5097.98 illustrates the process to be followed in the event that remains are discovered. If human remains are discovered during construction, no further disturbance to the site shall occur, and the County Coroner must be notified (CCR Section 15064.5 and PRC 5097.98).

Local

City of Sacramento Historic Preservation Ordinance

The City began implementing its historic preservation program in 1974 and officially adopted its first historic preservation ordinance the following year. In the decades since, the City has continued to amend and update its ordinance to boost the historic preservation program and its mission to identify, preserve, and promote cultural resources throughout the city.

Outlined in the City's Government Charter under Section 17.604, Historic Preservation, the ordinance provides the framework for the City's historic preservation program, including the establishment of the Preservation Commission, a Preservation Director, and supporting City staff; criteria and mechanisms for the survey, evaluation inventory; and recognition of cultural resources through the Sacramento Register and its criteria for eligibility; and the establishment of project review processes and design standards, consistent with federal and state standards, to protect and assess alterations related to maintenance and ongoing use of said resources. The City's historic preservation ordinance also outlines enforcement measures, and a series of available historic preservation incentive programs, including Mills Act contracts, density provisions, use of the California State Historic Building Code, and other planning provisions.

Sacramento Register of Historic-Cultural Resources

As outlined under Sacramento City Code Section 17.604.210(A)(1)(a), in order for a property to qualify as a Sacramento Landmark and eligible for listing in the SRHCR, it must exhibit historical significance under at least one of several eligibility criteria. Based upon the NRHP and CRHR, the eligibility for listing in the SRHCR includes the following:

i. It is associated with events that have made a significant contribution to the broad patterns of the history of the city, the region, the state or the nation;

ii. It is associated with the lives of persons significant in the city's past;

iii. It embodies the distinctive characteristics of a type, period or method of construction;

iv. It represents the work of an important creative individual or master;

v. It possesses high artistic values; or

vi. It has yielded, or may be likely to yield, information important in the prehistory or history of the city, the region, the state or the nation.

As with the CRHR, a property must also retain sufficient historical integrity. However, the aspects of integrity differ slightly and include location, design, setting, materials, workmanship, and association.

City of Sacramento 2035 General Plan

Adopted in March 2016 and building upon the previous 2030 General Plan, the *City of Sacramento 2035 General Plan* (City General Plan) serves as the City's current comprehensive planning document that outlines the goals, policies, and implementation strategies and programs for the city's development.

The goals and policies outlined in the City General Plan that are relevant to the project and the topic of cultural resources are located within the Historic and Cultural Resources Element. These goals and policies relevant to the project include the following:

Goal HCR 2.1 **Identification and Preservation of Historic Cultural Resources.** Identify and preserve the city's historic and cultural resources to enrich our sense of place and our understanding of the city's prehistory and history.

Policies

HCR 2.1.1 **Identification.** The City shall identify historic and cultural resources, including individual properties, districts, and sites (e.g., archaeological sites), to ensure adequate protection of these resources.

HCR 2.1.2 **Applicable Laws and Regulations.** The City shall ensure compliance with City, State, and Federal historic preservation laws, regulations, and codes to protect and assist in the preservation of historic and archaeological resources, including the use of the California Historical Building Code as applicable. Unless listed in the Sacramento, California, or National registers, the City shall require discretionary projects involving resources 50 years and older to evaluate their eligibility for inclusion on the California or Sacramento registers for compliance with the California Environmental Quality Act.

HCR 2.1.3 **Consultation.** The City shall consult with appropriate organizations and individuals (e.g., California Historical Resources Information System (CHRIS) Information Centers, the Native American Heritage Commission (NAHC), the CA Office of Planning and Research (OPR) "Tribal Consultation Guidelines", etc.,) and shall establish a public outreach policy to minimize potential impacts to historic and cultural resources.

HCR 2.1.5 **National, California, and Sacramento Registers.** The City shall support efforts to pursue eligibility and listing for qualified resources including historic districts and individual resources under the appropriate National, California, or Sacramento registers.

HCR 2.1.6 **Planning.** The City shall take historical and cultural resources into consideration in the development of planning studies and documents.

HCR 2.1.7 **Historic Resource Property Maintenance.** The City shall encourage maintenance and upkeep of historic resources to avoid the need for major rehabilitation and to reduce the risks of demolition, loss through fire or neglect, or impacts from natural disasters.

HCR 2.1.9 **City-Owned Resources.** The City shall maintain all City-owned historic and cultural resources in a manner that is consistent with the U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties.

HCR 2.1.10 **Early Project Consultation.** The City shall minimize potential impacts to historic and cultural resources by consulting with property owners, land developers, and the building industry early in the development review process.

HCR 2.1.11 **Compatibility with Historic Context.** The City shall review proposed new development, alterations, and rehabilitation/remodels for compatibility with the surrounding historic context. The City shall pay special attention to the scale, massing, and relationship of proposed new development to surrounding historic resources.

HCR 2.1.12 **Contextual Features.** The City shall promote the preservation, rehabilitation, restoration, and/or reconstruction, as appropriate, of contextual features (e.g., structures, landscapes, street lamps, signs) related to historic resources.

HCR 2.1.14 **Adaptive Reuse.** The City shall encourage adaptive reuse of historic resources when the original use of the resource is no longer feasible.

HCR 2.1.15 **Demolition.** The City shall consider demolition of historic resources as a last resort, to be permitted only if rehabilitation of the resource is not feasible, demolition is necessary to protect the health, safety, and welfare of its residents, or the public benefits outweigh the loss of the historic resource.

HCR 2.1.16 **Archaeological & Cultural Resources.** The City shall develop or ensure compliance with protocols that protect or mitigate impacts to archaeological and cultural resources including prehistoric resources.

City of Sacramento Department of Youth, Parks & Community Enrichment Planning Documents

In addition to citywide planning documents, the YPCE has developed specific documents related to the management of their facilities. Within these documents, certain sections and policies are specific to the ongoing management of cultural resources.

CITY OF SACRAMENTO PARKS AND RECREATION MASTER PLAN 2005-2010 (TECHNICAL UPDATE 2009)

Specific policies, strategies, and goals within the YPCE's most current Master Plan include the following:

Policies

12.15 Foster Public awareness of and ensure historic and cultural resources within the City's parks and recreational facilities are identified, protected, preserved, and rehabilitated consistent with the City's overall preservation objectives.

12.16 Strive to build a sense of place by protecting important environmental and cultural features as well as educating the public on the unique ecological qualities of the region.

12.33 Identify sites, facilities, structures, or landscapes of historic, cultural, or environmental significance which may influence site design.

Implementation Strategies

12.17 **Historic Preservation:** Consult with the City's Historic Preservation Division when parks are located within historic districts or known to contain historic resources.

PRE-CONTACT CONTEXT

The project is situated in what is generally described as the Sacramento Valley Region, which is one of eight arbitrary organizational divisions of the state (Moratto 1984). Occupation in the Sacramento Valley during the Pre-contact Period is estimated to have occurred as early as 12,000 years ago; however, only a few archaeological sites have been identified that predate 5,000 years ago. It is possible that Holocene alluvial deposits buried many pre-contact sites in this area. For example, Moratto has estimated that as much as 10 meters of sediment accumulated along the lower stretch of the Sacramento drainage system during the last 5,000–6,000 years.

Pre-contact material culture in central California (including the Sacramento Valley) after the Paleoindian Period has been categorized according to "horizons" or "patterns" that define broad technological, economic, social, and ideological elements over long periods of time and large areas. The taxonomic system historically used for central California is a tripartite classification scheme with Early, Middle, and Late Horizons. This Central California Taxonomic System (CCTS) was the result of efforts of several researchers (e.g., Beardsley 1954; Heizer 1949), and was further developed after the advent of radiocarbon dating (Frederickson 1973, 1974; Heizer 1958:1–16; Ragir 1972).

Today, a series of generalized periods associated with regionally based "patterns" are typically used as part of the CCTS for the Sacramento–San Joaquin Delta area, San Francisco Bay area, and North Coast Ranges (Bennyhoff and Frederickson 1969; Heizer 1949:1–83; Frederickson 1973, 1974). Smaller units of patterns are referred to as "aspects" and "phases." Revisions of the widely accepted CCTS (Bennyhoff 1994; Fredrickson 1994a, 1994b) are found in a recent volume edited by Hughes.

Fredrickson (1973, 1974) defined several regionally based patterns, of which three are specific to Central Valley prehistory and the project area. Referred to as the Windmiller Pattern, Berkeley Pattern, and Augustine Pattern, each represents a general pattern of resource exploitation, as identified between 2500 B.C. and the beginning of Euro-American contact (A.D. 1769). These patterns are present within the

following horizon sequences: Early Horizon/Windmiller Pattern, Middle Horizon/Berkeley Pattern, and Late Horizon/Augustine Pattern.

Early Horizon/Windmiller Pattern (2500–500 B.C.)

Clearly documented evidence for human occupation in the general area is found at sites characteristic of the Windmiller Pattern, or Early Horizon. These sites date to as early as 4,500 years ago and as late as 2,500 years ago (2500–500 B.C.). Such sites often contain manos and metates (grinding stones), as well as many mortar fragments, indicating that acorns and/or various seeds formed an important part of the diet (Moratto 1984:201).

In addition to plant foods, the subsistence system included many other food resources, such as deer, elk, pronghorn, rabbits, and waterfowl. Numerous faunal remains have been documented at Windmiller Pattern sites, along with large quantities of projectile points. The presence of angling hooks and baked clay artifacts possibly used as net or line sinkers, along with the remains of sturgeon, salmon, and smaller fishes, indicate that fishing was an additional source of food (Frederickson 1973; Heizer 1949; Ragir 1972). Items made of baked clay included net sinkers, pipes, discoids, and cooking "stones." Ground and polished charmstones, impressions of twined basketry, shell beads, and bone tools have also been found in Windmiller Pattern sites. Some items were obtained by trade, including shell beads, obsidian tools, and quartz crystals.

The archaeological record during the Windmiller Period indicates people practiced a mixed procurement strategy of both game and wild plants, with the addition of acorns and/or seeds. The mixed exploitation of a wide range of natural resources ties into a seasonal foraging strategy. Populations likely occupied the lower elevations of the Sacramento Valley in the winter months and shifted to higher elevations during the summer (Moratto 1984:206). Mortuary practices included burials, accompanied by grave goods, in cemeteries that were separate from the habitation sites.

Middle Horizon/Berkeley Pattern (500 B.C.–A.D. 500)

Over a 1,000-year period, the Windmiller Pattern began to shift to the more specialized, adaptive Berkeley Pattern, or Middle Horizon (500 B.C.–A.D. 500). A shift to a greater reliance on acorns as a dietary staple is interpreted during the Berkeley Pattern from the increase in mortars and pestles, along with a decrease in manos and metates. Mortars and pestles are better suited to crushing and grinding acorns, while manos and metates were used primarily for grinding wild grass grains and seeds (Moratto 1984:209–210).

As demonstrated by the artifact assemblage, hunting remained an important aspect of food procurement during the Berkeley Pattern (Frederickson 1973:125–126). The archaeological record, which consists of numerous large shell midden/mounds, also demonstrates that most Berkeley Pattern sites located near, or in the vicinity of, both fresh and salt water made intensive use of marine and estuarine resources. The artifact assemblage also includes shell beads and ornaments, as well as numerous types of bone tools. Interment continues to dominate mortuary practices, but a few cremations are also found at Berkeley Pattern sites.

Artifact assemblages and radiocarbon dating of sites from this period suggest this subsistence pattern may have developed in the San Francisco Bay region and later spread to surrounding coastal locales and into central California. Moratto (1984:207–211) suggests that this pattern is related to the expansion of Eastern Miwok populations from the San Francisco Bay area to the Sacramento Valley and Sierra foothills.

Augustine Pattern (A.D. 500–1769)

The Augustine Pattern (A.D. 500–1769) is evidenced by several changes in subsistence, foraging, and land use patterns that begin to reflect the use pattern known from Historic Period Native American groups in the area. A substantial increase in the intensity of subsistence exploitation, including fishing, hunting, and gathering (particularly the acorn), evidenced in the archaeological record correlates directly with an increase in population growth (Moratto 1984:211–214).

Tools and cooking implements included shaped mortars and pestles, hopper mortars, bone awls used for producing coiled baskets, and the bow and arrow. Pottery vessels, known as Cosumnes Brownware, are found in some parts of the Central Valley, and most likely developed during this period from the prior baked clay industry.

During this period, an increase in sedentism led to the development of social stratification, accompanied by a shift to elaborate ceremonial and social organization. Exchange networks, with the use of clamshell disk beads as currency, also developed during the Augustine Pattern. Mortuary practices during this period included flexed burials and pre-interment burning of offerings in a grave pit, as well as cremation of high-status individuals (Frederickson 1973:127–129; Moratto 1984:211). Additional items of material culture included flanged tubular pipes, harpoons, and small Gunther barbed series projectile points. The Augustine Pattern may represent the southward expansion of Wintu populations (Moratto 1984:211–214).

ETHNOGRAPHIC CONTEXT

The project area is in the traditional territory of the Nisenan, who are also known as the Maidu, and lived in the southern extent of the Sacramento River and east into the foothills of the Sierra Nevada Mountains. The term Maidu stems from the Native word for “person” or “human,” though it appears to include all living beings (Bibby 1994:325–326). The term Maidu is often used to describe three distinct Maiduan speaking peoples historically identified as Maidu (includes Northeastern Maidu or Mountain Maidu) of Plumas and Lassen Counties, Konkow (Northwestern Maidu, Concow, or Koyongkauwi) of Butte and Yuba Counties, and Nisenan (Southern Maidu) of Yuba, Nevada, Placer, Sacramento, and El Dorado Counties (Bibby 1994:325).

The traditional territories of the Nisenan included the drainages of the Yuba, Bear, and American Rivers, along with the lower drainage of the Feather River to the east and extending to the Cosumnes River in the south. Linguistically, they are closely related to the neighboring Konkow and Maidu languages, which together form the Maiduan Language Family (Mithun 2001), a subgroup of the Penutian language stock (Wilson and Towne 1978:387–397). Nisenan consisted of four dialects, each of which was found in geographically distinct areas of their territory, namely the Valley, Southern Hill, Central Hill, and Northern Hill. Their neighbors included the Southern Patwin to the west across the Sacramento River beyond the Yolo Basin, the Plains Miwok in the Sacramento–San Joaquin River Delta region, the Konkow to the north, and the Washoe to the east in the Sierra Nevada.

The Valley Nisenan generally established semi-permanent settlements or winter villages on low, natural rises along streams and rivers or on gentle, south-facing slopes (Wilson and Towne 1978:388). Communities were composed of a larger, central village with several smaller, outlying villages. The number of houses varied from three to seven in smaller villages and from 40 to 50 houses in larger villages. Houses were circular dome-shaped or conical, 10 to 15 feet in diameter, earth-covered semi-subterranean structures. Smaller brush shelters were used in the summer when more activities occurred outdoors. Structures also included large dance houses, sweathouses, and acorn granaries. Village populations ranged from a couple families to over 100 individuals (Kroeber 1925). Numerous primary Nisenan villages were located along the banks of the American, Bear, Feather, and Sacramento Rivers

and in the foothills. Although the exact location of Nisenan village sites is unknown, Wilson and Towne (1978) depict the village sites of *Yukulu*, *Bamon*, and *Polunkit* in the general region of the project area.

It appears that each community, whether a single village with satellite houses or a cluster of villages, controlled and managed the natural resources of its region. Although the position of headman carried authority, it was not direct authority, but required the support and agreement of the villagers and shaman (Wilson and Towne 1978:393). The headman position was often hereditary, though it could also be elected by a council of household heads. Among his duties to maintain the functioning of his community, the headman advised his people, called and directed special festivities, arbitrated disputes, hosted ceremonial gatherings, and called heads of family into council to discuss matters of community import. Feuds within a community might be ultimately resolved through one family moving away. Relations between communities were generally friendly and often resources were shared. But disputes over trespass into gathering and hunting areas sometimes arose. Deceased Nisenan were cremated, and their remains were buried in a designated cemetery area (Wilson and Towne 1978:392).

The fundamental economy of the Nisenan was one of subsistence hunting, fishing, and collecting plant foods in an area where abundant natural resources varied seasonally. Like most native Californians, the Nisenan relied on acorns as a staple food, which were collected during the fall and stored in granaries. Other vegetal resources, such as pine nuts, hazelnuts, buckeye nuts, fruits, berries, underground onions and tubers, and seeds, supplemented the diet. Salmon and other fish, shellfish, birds, grasshoppers and other insects, and large and small mammals were also harvested or hunted and consumed. Deer, elk, antelope, and black bears were among the large animals that were hunted by the Nisenan.

A wide variety of tools, implements, and enclosures were employed by the Nisenan to gather and collect food resources. These included the bow and arrow, traps, nets, slings, and blinds for hunting land mammals and birds, along with harpoons, hooks, and nets, and tule balsa and log canoes for fish. Throwing sticks were typically used to hunt rabbits and hares, and large nets and clubs were used during communal drives. Woven tools, including seed beaters, burden baskets, and carrying nets, as well as sharpened digging sticks, were used to collect a wide array of plant resources.

The Nisenan processed food resources with a variety of tools, including portable stone mortars, bedrock mortars and pestles, anvils, woven strainers and winnowers, leaching baskets and bowls, woven parching trays, wooden mortars, and knives. Unprocessed acorns were stored in large granaries. Trade was common between Nisenan groups for various resources and implements and with neighboring groups for finely made shell ornaments and money beads, steatite, and obsidian.

Spanish explorers first crossed into Nisenan territory in 1808, but there is no record of Nisenan peoples being removed from their lands to Spanish missions at this time (Wilson and Towne 1978:396). Trappers entered the Sacramento Valley in the late 1820s and began more frequent incursions into Nisenan territory. As a direct result of the introduction of foreign diseases, an estimated 75 percent of the Valley Nisenan were decimated during the great epidemic that swept the Sacramento Valley in 1833. With entire villages wiped out, Valley Nisenan survivors retreated into the hills (Cook 1955:322).

The discovery of gold in 1848, at Sutter's Mill near Coloma on the American River, had a devastating impact on the lives of indigenous Californians in the Sacramento and San Joaquin Valleys and all along the foothills of the Sierra Nevada (Chartkoff and Chartkoff 1984). Coloma was in the heart of Nisenan territory. With the tens of thousands of gold seekers came the mass introduction and concentration of diseases, the loss of land and territory (including traditional hunting and gathering locales), violence, malnutrition, and starvation (Grunsky 1989). Traditional lands of the Hill Nisenan were overrun in the early 1850s, and Nisenan survivors had little choice but to live at the margins of foothill towns and work for agricultural, logging, and ranching industries (Wilson and Towne 1978:396).

Although few descendants of the Valley Nisenan were recorded in the 1960 United States Census, several Hill Nisenan families resided in El Dorado, Nevada, Placer, and Yuba Counties in the 1970s (Wilson and Towne 1978:396–397). Today, there are approximately 2,500 Maiduan people (including the Maidu of Plumas and Lassen Counties, Konkow of Butte and Yuba Counties, and Nisenan of El Dorado, Nevada, Placer, Sacramento, and Yuba Counties) who live primarily on the rancherias of Auburn, Berry Creek, Chico, Enterprise, Greenville, Mooretown, Shingle Springs, and Susanville, as well as on the Round Valley Reservation (White 2005). The United Auburn Indian Community (UAIC) is located approximately 36 kilometers (22 miles) from the project area whereas the Wilton Rancheria are located approximately 26 kilometers (17 miles), and the Shingle Springs Rancheria approximately 80 (50 miles).

Development of Sacramento

Before European colonization, the Nisenan and Plains Miwok Indians called the Sacramento area home. Spanish colonization, which primarily occurred along the southern and central coast, did not instantly affect the native Indians of the Central Valley. The first recorded European expedition into the interior of California occurred in 1808 by Gabriel Moraga. Moraga surveyed the region to find suitable locations for a future mission and named the valley and river Sacramento, after the Spanish word for Sacrament. The Spanish never colonized the area but awarded rancho land grants to loyal citizens and soldiers to populate the region. This practice continued after Mexican Independence in 1821, and the influx of American settlers to the valley altered the landscape. The area saw multiple ranchos and land grants to Mexicans, Americans, and Europeans, like John Sutter, who developed a trading post between the American and Sacramento Rivers (Page & Turnbull 2019b). Sutter's trading post, known as New Helvetia after Sutter's homeland in present-day Switzerland, served as the foundation for early Sacramento.

Almost immediately after the annexation of California by the United States in 1848, gold was discovered at a lumber mill owned by Sutter along the American River near present-day Coloma in El Dorado County. This discovery spurred the California Gold Rush, which led to the rapid transformation of California as a sparsely populated western frontier to a center of industry, commerce, and trade. As the gateway to the Sierra Nevada and the goldfields of the foothills, Sacramento quickly became a transportation hub and nexus of Gold Rush economic activity. In December 1848, John Sutter Jr. and Sam Brannan hired topographical engineer Captain William H. Warner and Lieutenant William Sherman to survey and layout "Sacramento City." Named after the river and meant to differentiate John Sutter Jr.'s pursuits from that of his father, John Sutter Sr. The original city grid consisted of 26 lettered (A to Z, today C to Broadway) and 31 numbered (1st to 31st, today Front to Alhambra) streets. Sacramento's city grid was built directly at the base of the American River flood basin, where centuries of Sierra Nevada snowmelt created temporary lakes each spring, well into the 1840s. Sacramento's original townsite was laid out as a 5-square-mile area, with each street 80 feet wide (except for Front and M), and each block 320 to 340 feet long. Lots comprised each block and many blocks were divided by 20-foot-wide alleys (Figure 7) (Owens 2013:32–33, 42–43; Hallam 2013:63–64).

Although Sacramento grew through 1850, the population was not stable. With the excitement of new Gold Rush diggings and news of new claims, Sacramento's population remained largely transient aside from the core of merchants and hotel owners. California's population was undoubtedly increasing, but the population of Sacramento grew sluggishly due in part to the transient nature of the early Gold Rush miners, flooding, and fires that destroyed buildings. In September 1849, a destructive fire swept through the business district, destroying several blocks of canvas tent and wood frame structures, followed by a major flood in January 1850. In 1852 fire again swept through the business district, destroying over 55 blocks of the city. Original buildings in Sacramento were wood frame and canvas, but as fires and floods became a way of life, citizens began to erect buildings of brick and raised the street level, leaving the original street level below grade (Owens 2013:48–50).

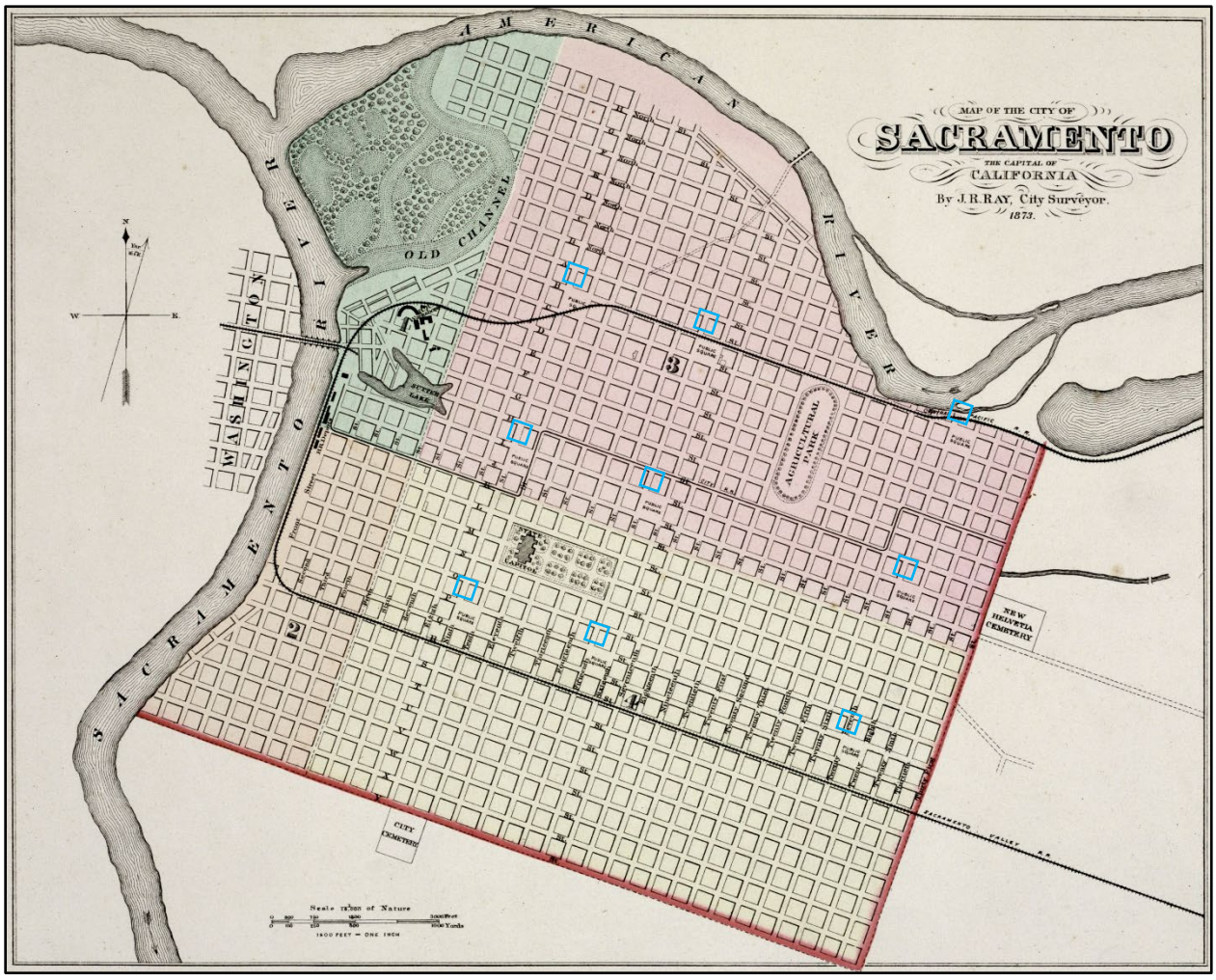


Figure 7. 1874 surveyor's map of the city of Sacramento, California. The public squares associated with the original 1849 plan for the city have been outlined in blue. Source: California State Railroad Museum and Archives.

In 1854 Sacramento became the capital of California. This rise in prominence, coupled with the city's strategic location and early commercial importance in the development of California, resulted in Sacramento becoming the western terminus for the first transcontinental railroad, which began construction in 1863. The Central Pacific Railroad Company, which later became the Southern Pacific Railroad and then Union Pacific, was founded by a group of merchants and businessmen known as "the Big Four," who were based in Sacramento, or had strong ties to the region. This development solidified Sacramento as a center for transportation in California, providing immediate links to San Francisco and the growing agricultural hinterlands of the central valleys with the rest of the United States (Owens 2013:48–50).

Through the 1870s and into the 1900s, growth continued eastward away from the original core along the embarcadero and K Street. The patterns of growth were often reflective of the types of amenities in given neighborhoods including schools and parks. Utilizing the knowledge of parks within urban spaces Sacramento's grid was developed utilizing these ideals. John Sutter Jr., the primary driving force for the

development of Sacramento, had the city laid in a grid pattern with spaces specifically for city plazas (see Figure 6). These plaza parks provided residents with publicly accessible spaces within an urban core.

As growth continued, pushed by the development of streetcars which connected new neighborhoods with the urban commercial core, the main city grid began to fill. By the 1890s, speculators had begun to eye land outside of the main grid for development. This led to development of Sacramento's first residential suburban tracts of Oak Park, Elmhurst, and East Sacramento (Kremer 2012). The trend of suburban expansion and growth of the city towards the east, south, and eventually north would continue throughout the remainder of the twentieth century, particularly during the population boom years following World War II (WWII).

Del Paso and North Sacramento

Del Paso is a community within the northern portion of the city of Sacramento. Located on the north side of the American River, the area was originally part of Mexican-era land grant of Rancho del Paso. Awarded to Eliab Grimes on December 20, 1844, Rancho del Paso was a 44,000-acre property that extended along the north bank of the American River and covered an area consistent with the northern areas of the city of Sacramento and the unincorporated communities of Del Paso Heights, Arden Arcade, Rio Linda, and others in present-day northwest Sacramento County (Page & Turnbull 2019a; American Institute of Architects [AIA] 2014); Eliab partnered with John Sinclair to harvest wheat and cattle on the land. The ownership of the ranch changed in 1848 when Eliab died and passed the rancho to his nephew Hiram, and in 1849, John Sinclair sold his share of the rancho back to Hiram, who in turn sold the land to Samuel Norris, a San Francisco trader. Throughout the 1850s, Norris remained embattled with Eliab's descendants, who contested Norris' rightful claim to the rancho. In 1860 the U.S. Supreme Court sided with Norris, though the trials placed him in deep debt with his lawyers, forcing him to sell the rancho to James Ben Ali Haggin and Lloyd Tevis, forming the Haggin-Tevis Partnership. This partnership consisted of two brothers-in-law from San Francisco, who utilized the land for pasturing sheep, cattle, and horses while growing crops of grain, hay, and hops along the American River. The partnership also bred racehorses; by 1886 the rancho had over 100 horses in training.

In 1889 the partnership formed the Rancho Del Paso Land Company, which intended to subdivide and sell the entire rancho to a single buyer. After proving unsuccessful, the company ultimately sold the land in 1905 to the Sacramento Valley Colonization Company (SVCC), which was a collection of 10 local investors who aimed to subdivide and sell the land for development (Page & Turnbull 2019a; AIA 2014). The subdivisions created by the SVCC formed the foundation for the area as it's known today, adding names like Rio Linda, Del Paso Heights, and North Highlands to the map. While many of these areas remained overwhelmingly agricultural in the initial decades of the twentieth century, a concentrated community directly north of the city of Sacramento began to grow. Known as North Sacramento, the growing townsite saw an increase in commercial and residential development after the initial subdivision by the SVCC. The growth of the community was spurred further in 1915 with the opening of the Sacramento Northern, which was a streetcar line that connected the North Sacramento area with the central core of south-adjacent Sacramento. In 1924, North Sacramento officially incorporated as its own municipality (Figure 8) (North Sacramento Chamber of Commerce 2022).

Despite its growth, the North Sacramento community remained relatively small with a modest commercial district and suburban homes, all of which was surrounded by agricultural lands. The outlying areas beyond the city's boundaries, known as Del Paso Heights, was predominantly ranchland, and much of the initial development was uneven, with irregularly shaped commercial and industrial areas, long and dense residential blocks, and inconsistent infostructure development. This urban development represents much of the regions surrounding Del Paso, as much of the land outside downtown Sacramento was used for agricultural purposes (City of Sacramento 2009).



Figure 8. Ca. 1940 map of North Sacramento and vicinity; note the "Sacramento City Park" area at the top-right corner, which corresponds with present-day Del Paso Park. Source: Center for Sacramento History.

Throughout the 1920s and 1930s, the neighborhood's racial makeup was primarily white. However, during the Great Depression, there was an influx of African American residents to the region from the southern states seeking work due to economic hardships of the period. Many African American men found work with the Southern Pacific Railroad at the Sacramento Railyards north of downtown. Racial covenants and other discriminatory housing policies, most commonly known as "redlining" prevented many people of color from residing and purchasing homes in some of the more desirable areas of Sacramento, including North Sacramento. While North Sacramento would remain predominantly white over the following decades, the availability of land in the Del Paso Heights area presented an opportunity for many people of color to purchase homes, ultimately changing the overall demographic makeup of the community over to African American and eventually Latino majorities (Page & Turnbull 2022:26).

By the early 1960s, the City was annexing piecemeal areas surrounding North Sacramento, including portions of Del Paso Heights and other unincorporated communities. In 1964, the City of North Sacramento too was annexed following an election where the decision to join the City was made by a slim margin of votes. Annexation and the dilution of public services, combined with the opening of US Highway 160 and the closing of the nearby McClellan Air Force Base, is perceived to have brought economic hardship to the neighborhood. During the 1970s, the community became economically isolated and experienced rising crime and poverty. By the early 1990s, the Sacramento Housing and Redevelopment Agency (SHRA) adopted the Del Paso Heights Redevelopment Project Area and began investing in infrastructure, street, and sewer improvements. This redevelopment invested millions into the

neighborhood through 2001 (Page & Turnbull 2022:26; University of California, Santa Barbara [UCSB] 2023).

Parks and Recreation in Sacramento

Early Plazas, Public Parks, and Pleasure Grounds (1845–1901)

Public park spaces have been an integral part of Sacramento's urban fabric since its earliest development. Associated with the planning and surveying efforts of John Sutter, Jr. in 1849, the city's foundational grid included entire city blocks set aside as public plazas, rationally located throughout. The initial plan included 10 plazas, nine of which still exist including Plaza Park (today, Cesar E. Chavez Plaza), Roosevelt Park, Fremont Park, Winn Park, Marshall Park, Stanford Park, Grant Park, Muir Playground, and Sacramento Memorial Auditorium (Figure 9 and Figure 10) (Kremer 2012). The original iterations of these plazas were consistent with similar park spaces found throughout the United States during this period. They were often defined by a perimeter walking path with axial, insular walking paths tending into the park space and converging upon a central element, such as a fountain, statue, or similar feature. The interstitial landscape would include a mixture of open space with turf, low-profile plantings, and larger shrubs and trees serving as screening and anchoring elements, either oriented in sporadic or formal configurations.

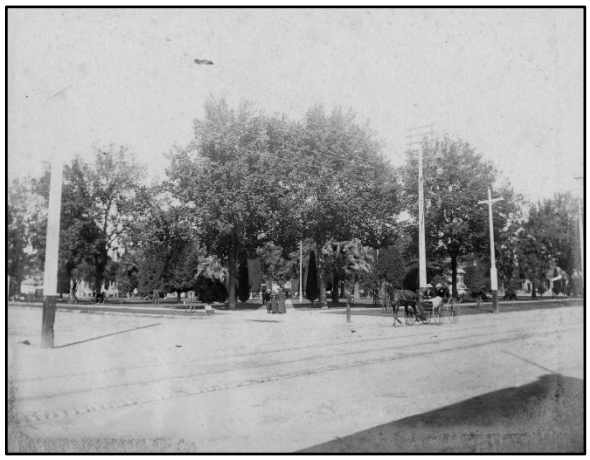


Figure 9. Ca. 1890 photograph of Plaza Park, now Cesar Chavez Park in downtown Sacramento. Source: Sacramento Public Library.



Figure 10. 1905 photograph of Winn Park in Sacramento. Source: University of California, Berkeley.

In addition to the original city's public plaza spaces, the State of California (State) was also an important part of developing Sacramento's public parks. In a bid to cement Sacramento's selection as the state capital in 1854, the City offered land at Plaza Park for the State Capitol building. However, the site was ultimately infeasible and a new, larger location was provided to the southwest. The initial landscape around the State Capitol was formal with concentric axial pathways radiating from its four façades. However, through the effort of the State, additional lands spanning over 10 city blocks were acquired for a new grand park. Throughout the 1870s, Capitol Park was landscaped in the Victorian tradition with a symmetrical, oval-shaped carriage route, expansive lawns, and over 800 trees and other plants spread

throughout the landscape (Page & Turnbull 2019a:164–165). In the following years, Capitol Park would be added to with several amenities, including exhibition halls and pavilions for the State Fair.[2]

As tastes changed towards the late nineteenth century, these early plazas and public parks were often redeveloped to include more naturally appearing plantings and "picturesque" landscapes with meandering pathways (Figure 11). This coincided with the concept of the "pleasure ground," which became the model for the development of public parks in Sacramento. Characterized by their romantic and idyllic picturesque qualities, the pleasure ground and wilderness parks were born out of the American Transcendentalist movement of the late nineteenth century, which promoted natural and open spaces as a regenerative experience in contrast to the conditions within industrialized urban centers of the period (Prosser 2017:7–8). Although intended to be natural settings, pleasure ground parks were carefully designed and maintained to create the illusion of a natural, organic setting.

In Sacramento, like so many cities throughout the United States, these park types also had a practical role in redeveloping land that had no profitable use or was perceived as undevelopable, either through uneven terrain, poor drainage, or other site conditions that impeded construction. In many cases, these parks also were used as a real estate speculation tool, turning poor-quality land into a desirable public amenity, which spurred the subdivision and sale of the surrounding lands as new neighborhoods. The earliest example of the pleasure ground park is McKinley Park. Originally known as East Park, the property was a low-lying slough located on the outskirts of Sacramento. The land was purchased by the Sacramento Street Railway Company in 1871 and transformed into a park over the following year. Upon opening in 1872, the park was celebrated for its collection of plantings and meandering avenues and walkways. Over time, additional amenities were added, including conversion of the slough into a picturesque lake and the addition of a zoo, flower gardens, and picnic grounds (Figure 12). The park became an incredibly popular destination and ultimately as a catalyst for residential development in early East Sacramento (Nelson 2018:8.24–8.26).

[2] In addition to Capitol Park, the State founded the State Agricultural Park during the same period in 1861. Located in the present-day neighborhood of Boulevard Park, Agricultural Park was the early fairgrounds and featured a prominent horse racing track and agricultural exhibition space. While a notable public space, the property was specifically developed as a fairground and not a public park.



Figure 11. 1905 photograph of Marshall Park in Sacramento. Source: University of California, Berkeley Bancroft Library.



Figure 12. 1912 photograph of three women overlooking the lake at McKinley Park. Source: Center for Sacramento History.

Municipal Parks and Public Recreation (1905–1941)

During the early twentieth century, the public park evolved from the pleasure ground to a more modern iteration of the municipal park. In addition to planned and manicured open spaces—expressed in a mixture of picturesque and formal compositions—municipal parks began featuring a series of amenities and facilities that catered to a variety of recreational uses, marking a shift from a "passive enjoyment of the landscape" to more developed activities and amenities (Prosser 2017:11). Consistent with the Progressive-era reforms of the early twentieth century, the municipal park model of the Reform Park Movement would often feature various educational and cultural programs, as well as the promotion of the outdoors and sport, all through purpose-built buildings, structures, playing fields, and other well-defined facilities separate from the general open and more naturalistic spaces of the park (Prosser 2017:11; Mead & Hunt and PGA Design 2012:8).

Early examples of the municipal park model came through the re-imagining and partial redevelopment of the existing pleasure ground parks through the introduction of new amenities and facilities. This was evident at McKinley Park. By 1902 upkeep of the park was prohibitively expensive, relying on non-profit organizations to first manage, and later own, the park. In 1911 the City annexed East Sacramento and took ownership and control of McKinley Park. By then, the park had been expanded to include running tracks, a deer park, a clubhouse, and early sporting fields for baseball, tennis, and basketball (Nelson 2018:8.24–8.26).

Another major early municipal park in Sacramento was Southside Park. Similar to McKinley Park, Southside Park was constructed on low-lying land with poor drainage. The area, which had been prone to flooding, was protected by a series of levees in 1902, opening south of downtown Sacramento to development. With the intent of creating a new regional park, the City purchased the land in 1905 and hired San Francisco-based landscape architect John McLaren, designer of Golden Gate Park, to create Southside Park in the emerging municipal park vein, which mixed elements of the pleasure ground model with new recreational amenities. Using the low lying land, the design for the park had a central lake with large open spaces, picnic grounds, prominently placed shade trees, meandering pathways, and a clubhouse facility (Figure 13). Southside Park initially opened to the public in 1907 and would continue to evolve over the following decades to include a variety of amenities, including bocce courts, a bandstand, and playgrounds (Burg 2017:8.10–8.12).



Figure 13. Ca. 1915 photograph of Southside Park, Sacramento. Source: Center for Sacramento History.

In 1911 the City sought to explore potential areas for new, grand parks. The city purchased 800 acres of land along Arcade Creek well north of the city's boundaries at present-day Del Paso Park and hired Boston-based planner John Nolen to provide a new development plan for the new parkland, and later a broader Sacramento park system plan. Nolen ultimately recommended the expansion of over 100 new parks and open spaces throughout the city, with Del Paso Park being the central unifying component. However, the plans never came to fruition, due in large part to the relatively remote location of Del Paso Park form the city (Mead & Hunt and PGA Design 2012:13–14).

The full realization of the municipal park model came soon after. The same year that the City purchased the land for Del Paso Park, William Land, a successful businessman and civic leader, passed away and donated a large area of land south of the city for use as a public park. William Land Park was slow to be developed, but ultimately came to fruition by the mid-1920s. In addition to expansive, open park space, William Land Park featured a number of amenities, including athletic fields, curved pleasure drives, playgrounds, a large pond, a golf course, and the Sacramento Zoo (Figure 14). The park would continue to evolve over the following years with improvements conducted by the City, and later federal work relief programs under the New Deal-era, namely the Works Progress Administration (Mead & Hunt and PGA Design 2012:15–20). Today, William Land Park remains one of the preeminent municipal parks in Sacramento.



Figure 14. 1939 aerial photograph of the southwest corner of William Land Park, view north. Source: Center for Sacramento History.

Postwar Parks and Recreation (1945–Present)

The postwar period in Sacramento, as elsewhere throughout California and the broader United States, was defined by increased suburbanization, which in turn led to new parks outside of the traditional urban and municipal parks of the previous decades. This, coupled with an emphasis on increased recreation, play, sport, and fitness driven in part by federal policy, led to an expansion of playgrounds, playing fields, and other sporting facilities throughout the Sacramento area (Figure 15) (Mead & Hunt and PGA Design 2012:10).



Figure 15. Little league game at Tahoe Park, 1960. Source: Center for Sacramento History.

With the construction of new communities, the neighborhood park would become the dominant model for park development. These were essential, unifying elements within each community. Often a few acres in size, these parks provided playgrounds, sporting fields or courts (baseball diamonds, basketball courts, tennis courts, etc.), picnic spaces, and occasionally community centers or clubhouses, all surrounded by landscaped open park space. Another inherent element of the neighborhood park was the parking lot. Despite being within a neighborhood, the automobile had become ubiquitous with postwar life, and parking lots to provide park access were essential in postwar neighborhood parks. In addition to the neighborhood parks, the postwar period saw the rise of the regional recreation center. Larger in size, these parks would be designed around expanded recreational facilities, including public swimming pools, complexes of athletic fields, gymnasiums, and golf courses (Prosser 2017:29–30). Examples of postwar, neighborhood parks and regional recreation centers include Tahoe, Glenn Hall, Belle Coolidge, Northgate, Woodbine, and George Sim Parks.

While postwar parks utilized the modernist architectural vocabulary and focused on a variety of recreational amenities and sports facilities, later postwar parks in Sacramento would revert to a more picturesque and natural aesthetic. This was reflected in new greenbelt-focused parks, which exhibit more naturally apparent landscapes as part of the promotion of outdoor education and a more tranquil experience, marking a return to a more wilderness park and pleasure ground-based ethos within the context of the emerging environmental conservation concerns (Prosser 2017:38). Examples include Frank Seymour Park, Bannon Creek Park and Parkway, and Sutter's Landing Regional Park.

PROPERTY HISTORY

Del Paso Regional Park

As outlined in previous sections, Del Paso Park was initially established in 1911, when the City purchased around 800 acres in the Del Paso Heights area from the SVCC for the purposes of creating a grand public park (Figure 16). The City Trustees agreed on the name "Del Paso Park" in honor of the Mexican-era rancho, of which the property had once been a part of. While the park remained largely natural and undeveloped for the early decades of the park, some early amenities were constructed, including walking trails, picnic tables, lighting, and playground equipment (Figure 17) (Cardno 2015).

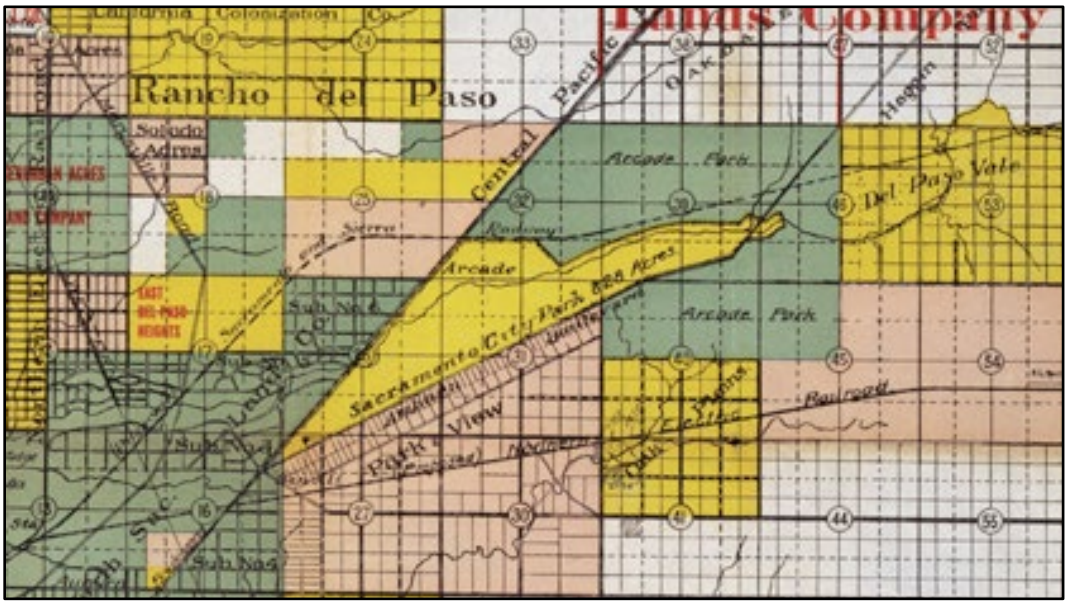


Figure 16. Excerpted portion of a 1916 map of suburbs in the North Sacramento area, showing the City-owned park property that would become Del Paso Park. Source: California State Library, California History Room.



Figure 17. 1937 photograph of Auburn Boulevard extending alongside Del Paso Park. Source: City of Sacramento Public Library.

In 1914 the City of Sacramento hired planner John Nolen to grand park layout. That next year, Nolen submitted his plan, an ambitious turn-of-the-century "garden city" that would include botanical gardens, a Greek theater, a lake, and an athletic field in the growing, progressive municipal park model, which would be integrated into a larger park and greenbelt system along the American River. However, the plan proved too expensive, and the distance of Del Paso Park from the then-city boundaries south of the American River presented a logistical challenge; the City never implemented Nolen's design. Instead, City planners initiated plans to develop the park grounds into public recreational facilities. The first of these developments occurred in 1926 when the City leased 20 acres to the Sacramento Trap Shooting Club. In 1932 the City established an 18-hole golf course on the park's east side. Originally called the Sacramento Municipal Golf Course, the now-named Haggin Oaks Golf Course was designed by Alister McKenzie, a prominent golf course designer and landscape architect responsible for the Cypress Point Golf Course in Monterey, California, and the U.S Masters Course at the Augusta National Golf Club in Augusta, Georgia (Morton 2014; Swesey 2022; *The Sacramento Bee* 2008; UCSB 2023).

By 1940 Watt Avenue was constructed and extended into the park, ultimately bisecting it into east and west sections (Figure 18). The park experienced more development in 1946 when the Sacramento Horsemen's Association (SHA) obtained a 20-year lease for a clubhouse and stables on the park property. Initially formed as the Sacramento Sherriff's posse in 1937, the SHA sponsored horse shows and rodeo events around the Sacramento area, including at their facilities in Del Paso Park. The club expanded in 1956 with the construction of the Saddle Oaks Clubhouse, a new barn in 1962, and a small arena in the 1970s. The expansion of the SHA and enlargement Haggins Oaks brought more residents to the park, which prompted the city to create more recreational facilities. By 1963 the Capital City Highway, the business loop section of Interstate 80, further separated the two sections of the park (*The Sacramento Bee* 1942; SHA 2022).

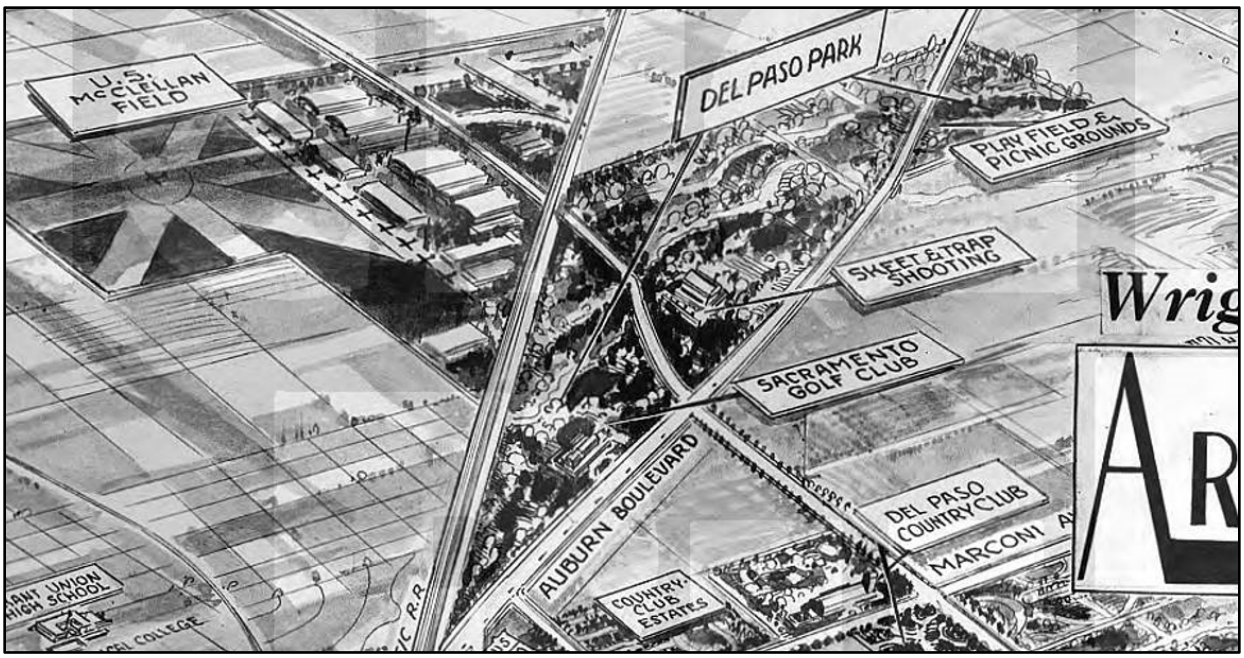


Figure 18. Excerpt from a 1940 sketch map of North Sacramento, illustrating Del Paso Park and some of its facilities and amenities. Source: City of Sacramento Public Library.

As the economic prosperity of the postwar years brought more Americans outside, the demand for recreational activities in public spaces increased. The City began developing the western portion of the park in the late 1960s, as previous improvements primarily occurred on the east side of the property. In 1968 the City constructed a baseball field in memory of Harry Renfree, who worked for the City's Recreation and Parks Department for 30 years. Construction cost around $250,000, and a dedication service occurred on May 12, 1968. This project was the first significant development on the park's east side and helped usher in new projects that attracted people to the area (*The Sacramento Bee* 1951a, 1968a, 1968b). Use of the east portion of Del Paso Park intensified further in 1976, when the Discovery Museum moved its location from Cal Expo to Del Paso Park. Initially founded by the California Science Museum in 1951, the museum served as a "place where children and adults could both touch and be touched by the wonders of science and nature." The museum operated at Cal Expo for over 20 years before the site became no longer favorable due to the California State Fair moving to the location. The museum changed names again to the Sacramento Science Center and Junior Museum, which reflected the changing scope of programs and exhibits in natural and physical science.

Throughout the 1980s, Del Paso Park continued to evolve. To expand sporting opportunities, the City constructed a softball complex paid for by a grant from the California DPR under the California Park Land Bond Act of 1984. The Sacramento Softball Complex features four diamonds, a restaurant, picnic area, parking lot, and a two-lane bridge across Arcade Creek (*The Sacramento Bee* 1951b; Johnson 1991; SMUD Museum of Science and Curiosity [MOSAC] 2022; Smith 2022).

The park continued to serve as a popular recreation center throughout the 1990s and early 2000s. However, with California's rising homeless problem, the park became subject to illegal encampments, particularly along the park boundaries adjoining the freeways and the Union Pacific Railroad alignment to the west. In 2020 the Discovery Museum relocated to Downtown Sacramento and was renamed the MOSAC, and the city transformed the former museum building at Del Paso Park into a homeless respite center. In 2004 the City began leasing land on the west position of the park to a Honda dealership, which represents a recent example of multiple incursions along the peripheries of both the east and west sections of the park (*The Sacramento Bee* 2000; Clift 2022; Lillis 2016; Lindelof 2004).

Harry Renfree Field

Renfree Field is a baseball diamond facility that was constructed at Del Paso Park in 1967 and officially opened in 1968. Commissioned in part by the City and funded through private and non-profit donors, the baseball facility was noted as an early recreational baseball diamond with field lighting that would allow for night games. The baseball diamond and facilities were constructed for approximately $250,000, and was officially dedicated on May 12, 1968, by the City's Recreation Director who died suddenly in the years prior.

Initial planning for what would become Renfree Field began as late as 1965 (McDermott 2013). Community members and advocates for recreational baseball approached Renfree about the construction of a new baseball diamond with lighting that could facilitate nighttime games and play. Renfree would take the request and approach a number of organizations and individuals within the local baseball community to begin advocating to City Council. Among those included Sal H. Gomez, a noteworthy local businessman and promoter of sports in Sacramento, who helped push the funding drive for the facility, raising over $15,000 for the construction of bleachers and a restroom facility (McDermott 2013). Following the completion of the field in 1968, the facilities included the baseball field with perimeter fencing, dugouts, bleacher seating that could accommodate 800 spectators, a public restroom building, a standalone concession building, and a two-story clubhouse building with team lockers and a press box (Figure 19) (Conlin 1981).



Figure 19. 1971 aerial photograph showing Renfree Field soon after completion. Note the clubhouse building and clearly defined bleachers, dugout spaces, clubhouse and press box building, and restrooms; north is up. Source: UCSB 2023; Frame Finder, Flight CAS_3069, Frame 4-167.

The opening game at the facility featured a mixture of major and minor league players, who played alongside members of the original Sacramento Solons, an early Sacramento minor league baseball team that played sporadically between the late nineteenth century and mid-twentieth century. While the opening game and others hosted during the initial years of its operation drew large crowds of thousands of spectators, the majority of the baseball diamond's use was recreational with a number of different

competitive, amateur and recreational baseball teams and leagues using the facility. However, despite this initial fanfare, the facility was beginning to lose its luster by the mid-1970s, as leagues—college, amateur, high school, and recreational—began using other, newer facilities (Bodding 1975).

In the 1980s, Renfree Field was often mentioned as a site for potential minor league, professional baseball. Following the end of the Solons in the early 1970s, Sacramento was absent a professional baseball team. Some efforts to establish a new team examined Renfree Field as a potential location, in addition to Cal Expo and other prominent areas within the city. However, despite the publicity around the notion, it is clear that the idea of using Renfree Field was never viable. On numerous occasions, issues around space constraints on the site and costs to make the necessary improvements were beyond what the City was willing to pay (*The Sacramento Bee* 1981; Conlin 1981, 1987).

The 1990s saw some renovations occur at Renfree Field for the first time since construction. The renovation included new sod, infield dirt, and decomposed granite, while the bleachers and backstop also underwent repair work. In the early 2000s, the playground was constructed immediately south of the baseball field and the Renfree Field parking lot was resurfaced (Figure 20). Despite the limited interventions, the facility continued to a state of decline and disrepair, which became more pronounced after the City made cuts to their Department of Parks and Recreation in the aftermath of the Great Recession. In 2012 following a fire in the press box related to vandalism, Renfree Field was closed. Plans from the non-profit and private sector to reinvest in Renfree Field would be common over the following years, although concrete plans did not materialize (Lillis 2012).



Figure 20. 2011 satellite image of Renfree Field, illustrating the conditions when it retained the original buildings and bleachers and was in continued use for baseball. Source: Google Earth Pro.

In 2018 the City constructed the second parking lot and walking path for the playground, located at the southeast corner of Renfree Field. The following year, the original buildings and bleachers were removed from Renfree Field, leaving only the backstop, chain-link fences, dugout benches, field lighting, and scoreboard (Figure 21).



Figure 21. 2022 satellite image showing existing conditions at Renfree Field. Source: Google Earth Pro.

INDIVIDUALS

Harry Renfree

Born in Sacramento on November 14, 1915, Alfred Harry Renfree spent his life as a public servant to the City. Son of Reginald H. Renfree, Alfred was a first-generation American as his family had migrated to the United States from England around 1900. One of five siblings, Alfred participated in numerous municipal sports leagues where he acquired a love for intermural activities. Alfred attended Sacramento High School and worked at the Sacramento Saw Works and Lyon-Darwin Hardware Company in Oak Park throughout the 1930s. In June of 1937, Alfred married Laura Shoemaker in Sacramento. Together the couple would have three daughters. Alfred's career in recreational sports began on a part-time basis in 1937 when he became manager of the Clunie Swimming Pool in McKinley Park. The City recreational department also utilized Alfred to officiate baseball, basketball, soccer, and volleyball leagues sponsored by the city (Ancestry 2023a, 2023b, 2023c).

The involvement of the United States in WWII forced many young men to put their lives on hold to fight against the Axis powers in Europe and the Pacific. A heart condition kept Alfred from wartime service. However, his brother Reginald who served as Superintendent of Sports for the City was drafted, and Harry took over the position temporarily. Upon Reginald's return in 1946, Harry became a recreational supervisor for the City and, in 1951, became the Sports Superintendent. Alfred's duties expanded in 1962 to take on adult activities such as golf and different senior programs. Outside work, Alfred was involved with various Masonic organizations, including the Washington Lodge No. 20, Scottish Rite bodies, and the Ben Ali Shrine. Alfred continued as superintendent until his death on December 7, 1966. Alfred

collapsed during a meeting with his boss and brother Reginald. Coworkers attempted mouth-to-mouth resuscitation. Alfred was pronounced dead at the Sacramento Hospital. Because of Alfred's lengthy service to the Recreation Department, the City dedicated a baseball park in his name at Del Paso Park in 1968 (*The Sacramento Bee* 1966a, 1966b).

Salvador H. Gomez



Figure 22. 1970 portrait of Sal Gomez for the Sacramento Metropolitan Chamber of Commerce. Source: Center for Sacramento History, Catalog No.2001/059/0220.

Salvador "Sal" Hurtado Gomez was a noteworthy restauranteur, businessman, and promoter of professional and junior sports in the Sacramento area during the second half of the twentieth century (Figure 22). Sal Gomez was born in Hayden, Arizona in 1915 to parents Niacario and Maria Gomez, both of whom were from Jalisco, Mexico and immigrated to the United States ca. 1912. Gomez' father worked as a laborer in a smelting plant before the family ultimately resettled in Los Angeles, California ca.1927 (Ancestry 2023d). While Gomez's father worked in street construction, Sal took a job working in the wholesale food industry. By 1940 Sal was working as a foreman and salesman for the West Coast Banana Distributors in Los Angeles (Ancestry 2023e). By 1941, he was enlisted into the U.S. Army and served in the 339th Engineers unit during WWII. Gomez met his wife in Corona, where she was working in a war time defense supplies factory, and they were married in 1942. Upon returning from the war, Sal Gomez found that his prior position was no longer available, and he ultimately began working for an uncle who ran a small tortilla making factory called "La Tolteca," located in the Boyle Heights neighborhood of Los Angeles (Castro 1992).

In 1947 Sal and Lucy Gomez moved to Sacramento, where they opened their own tortilla factor located at 1406 5th Street. The La Fiesta Tortilleria grew steadily over the following decades as Sal and Lucy Gomez continued to produce and market their product around the Sacramento area to both restaurants and grocery stores. They ultimately outgrew their original location and constructed a new purpose-built facility located at 9th and X Streets, near Stockton Boulevard (Figure 23). The new facility allowed them to meet impressive demands, including being distributed by Safeway grocery stores all Northern and Central California (Castro 1992). In addition to mass producing tortillas, Sal and Lucy Gomez opened their own restaurants known as the "La Fiesta Mexicatessen." The restaurant would experience notable success with several locations throughout the Sacramento area, including the former west end of downtown Sacramento, Arden-Arcade, and Carmichael (Figure 24).



Figure 23. 1961 photograph of the La Fiesta Mexicatessen located at 9th and X Streets. Source: Center for Sacramento History.



Figure 24. Ca.1955 photograph of the La Fiesta Mexicatessen restaurant located at 510 Capital Avenue in downtown Sacramento. Source: Center for Sacramento History.

In addition to Sal Gomez's success in business, he was a notable promoter of professional and recreational sports throughout Sacramento. He began playing golf for the networking opportunities and to advance his business interests, and was often involved in many golf tournaments throughout Sacramento. Gomez was also a charter member of the Northridge Country Club and the Mexican American Golf Association. Gomez was also involved in boxing promotion and was a notable promoter for baseball in the Sacramento region, sponsoring a variety of amateur and recreational teams, and leading the drive to finance the lighting at Renfree Field (Gibson 1996).

Gomez's involvement in civics extended beyond sport and recreation and included serving in a variety of organizations and committees, including the Sacramento Metropolitan Chamber of Commerce, the West End Citizens Committee for Redevelopment, and the Lions Club (*The Sacramento Bee* 1954). In 1970 Gomez ran for election in the 8th California Assembly District as a Republican, but ultimately lost to Democratic incumbent and former May of North Sacramento Walter W. Powers (*The Sacramento Bee* 1970). While Gomez does not appear to have sought out elected office again, he continued to be a notable civic figure in Sacramento until his passing in 1996.

IDENTIFICATION OF CULTURAL RESOURCES

North Central Information Center Records Search

On December 5, 2022, SWCA performed an in-house records search at the CHRIS NCIC, located at California State University, Sacramento, to identify known cultural resources and previous cultural resource studies within 0.25 mile of the project. The records search results are included in Appendix A.

Previous Cultural Resource Studies

Seven previously conducted cultural resource studies were identified within 0.25 mile of the project, including studies that produced several different reports (Table 1; Appendix A). None of these studies

intersect the project area, and all were written more than 10 years ago. Therefore, they are insufficient for the purposes of this study.

Table 1. Previous Studies within 0.25 Mile of the Project Area

NCIC Report Number	Title of Study	Author	Year
000127	*Present Status of Archaeological Resources in Sacramento County*	Johnson, Jerald J.	1972
000176	*An Archaeological Reconnaissance of Sewer Alignments for the Natomas Interceptor System, Sacramento, California*	Dondero, Steven	1978
000314	*Archaeological Survey Report for the Proposed Watt Avenue/State Route 41 Overcrossing Widening Project 03-SAC-51 PM 8.0/8.1 03290-253400*	Weigel, Lawrence E.	1982
000614	*Park Road Sewage Pumping Station Demolition*	Keefer, Margaret	2001
006385	*Re: Results of Archaeological Monitoring for the Park Road Sewage Pumping Station (S-14)*	Tremaine, Kim	1997
013886	*Section 106 Approval for FY08/09 RTP Non-Motorized Project RT-34-016, Improving Del Paso Regional Park's Trails, City of Sacramento (FHWA101014A)*	Coombs, James, Susan Stratton, and Milford Wayne Donaldson	2010
013886A	*Section 106 Impact Analysis for the Del Paso Park Redevelopment Project*	Dice, Michael	2010

Previously Recorded Cultural Resources

Two previously recorded cultural resources were identified within a 0.25-mile radius of the APE (Table 2; see Appendix A). One previously recorded cultural resource intersects the APE, P-34-004267, while the other, P-34-000228 (CA-SAC-000201) is outside the APE. Resource P-34-004267 represents Del Paso Park, which includes 83 developed acres, 709 acres in open space golf courses, and additional facilities, such as picnic areas, walking and equestrian trails, play areas, a softball complex, and restroom facilities. Resource P-34-000228 (CA-SAC-00201) is a pre-contact site consisting of ground stone and two projectile points (similar to Gypsum Cave points) found in Arcade Creek. The site was recorded by Curtice in 1955, but could not be relocated when it was revisited by Cultural Resources Unlimited in 2001 (Derr and Derr 2001).

Table 2. Previously Recorded Cultural Resources in the Project Area

P-Designation	Trinomial	Resource Type	Description	NRHP Evaluation	Distance to APE
P-34-000228	CA-SAC-000201	Pre-contact	Ground stone and points in creek bed	Unevaluated	Outside APE
P-34-004267		Historic	Del Paso Regional Park	Unevaluated	In APE

Native American Heritage Commission Sacred Lands File Search

SWCA also contacted the NAHC and requested a search of the SLF on November 22, 2022, with the intent of identifying culturally sensitive areas and obtaining a list of native American Contacts who many have specific knowledge of the project vicinity. On December 13, 2022, the NAHC responded stating that the SLF search had produced positive results, meaning that there are known sites of sensitivity within the project site or its vicinity (Appendix B). The NAHC requested that the United Auburn Indian Community (UAIC) of the Auburn Rancheria be contacted for information, in addition to providing a comprehensive

list of various tribal representatives that may retain further knowledge of cultural resources within the project vicinity.

NATIVE AMERICAN INFORMATIONAL OUTREACH

On January 27, 2023, SWCA submitted letters to the 10 tribal representatives included within the list provided by NAHC (Appendix C). These letters provided general a general project description, associated project location maps, and a request for additional information regarding potential cultural resources located within the project area. On February 14, 2023, SWCA conducted follow-up telephone calls to each of the tribal representatives to confirm receipt of the initial letter and to solicit information or knowledge related to potential resources or areas of sensitivity (Appendix D). Voicemails were left with nearly all of the tribal contacts, except for one where a conversation occurred. The representative stated that the Arcade Creek area has heightened pre-contact sensitivities, stated that special consideration should be paid to areas where depth of disturbance exceeds 3 feet below grade, and identified a Most Likely Descendant.

AB-52 CONSULTATION

As the lead agency under CEQA, the City has been concurrently consulting with Native American Tribes on the project, as required under AB 52. Specifically, the City has been consulting with the United Auburn Indian Community (UAIC) and soliciting feedback related to potential resources within the project vicinity, as well as the overall heightened sensitivity of the area.

Through consultation with the City, the UAIC has provided guidance on approaches for desired mitigation measures specific to tribal resources. The City has provided general information to SWCA to inform the development of this technical report and inclusion in the appropriate mitigation measures. Specifics related to the conversations under AB 52 consultation have been omitted for confidentiality purposes.

Field Investigations

The project area is located within Del Paso Park, which is an expansive recreational park located in the northeast corner of the city of Sacramento's boundaries at the eastern confluence of the Interstate 80 and Business 80 Freeways. Del Paso Park is noted for its various recreational facilities and amenities, including sports playing fields and softball complex, golf course and driving range, walking and hiking trails, equestrian trials, picnic areas, playgrounds, general open space, natural habitats and interpretive trails, the Discovery Museum, and a number of support and operations facilities.

The following provides observations and supporting documentation related to the field investigations for both archaeological and historical resources. Qualified archaeologists and architectural historians performed intensive field investigations on December 7, 2022; all photographs included were taken by SWCA on that day and are on-file at SWCA's Sacramento office.

Archaeological Resources

The archaeological survey covered the project area using pedestrian transects spaced 10 feet apart where vegetation conditions and safety considerations allowed. Periodic boot scrapes were employed to expose soils when vegetation obscured the ground surface. The project area is generally divided into an east and west section, bisected by Bridge Road, which extends north–south through the area. The west section of the project area is defined by open space, which features a mixture of exposed soils and low-profile grasses (Figure 25). Various shrubs and trees, notably oaks, are located sporadically through the property,

but primarily along the perimeter. While appearing natural, the uniform grade at the site and structural encroachments with fencing along the west perimeter and bollards along Bridge Road suggests that the site has undergone varying degrees of disturbance. This is emphasized further through vehicle tread marks, informal walking paths, and evidence of human encampments (Figure 26). No cultural resource materials historic or pre-contact in nature were observed in this section of the project area.



Figure 25. Overview of the west portion of the project area, view south towards Auburn Boulevard.



Figure 26. North section of the west portion of the project area with informal walking path and evidence of vehicles, view southwest.

The eastern portion of the project area is defined primarily by the baseball diamond of Renfree Field and other associated recreational developments. At the westernmost end of this portion, the landscape is characterized by a large, paved surface parking lot (Figure 27). The area adjacent to the parking lot features a mixture of turf-covered open spaces and hardscape associated with the park pathways and foundations of pre-existing buildings and structures associated with the baseball diamond (Figure 28). Informal dirt walkways were also observed towards the north end of this portion of the project area (Figure 29 and Figure 30). Ground visibility was moderate, with exposed soils located along the north and western periphery of the area. However, the area has been evidently disturbed by the development and ongoing maintenance of the park.



Figure 27. Overview of the surface parking lot, view north.



Figure 28. Overview of the baseball diamond and facilities at Renfree Field, view northwest.



Figure 29. North end of the west portion of the project area with a dirt path, view east.



Figure 30. North periphery of the west portion of the project area, view east.

Historical Resources

The project area is located within the northeast section of Del Paso Park, roughly bounded by Park Road to the north and east, Auburn Boulevard to the south, and Watt Avenue to the west. Specifically, the project area is centered along Renfree Field, which is a recreational baseball diamond and playing field with support facilities that is accessed by Bridge Road (Figure 31).



Figure 31. The project area with Renfree Field in the background, view facing northeast from Auburn Boulevard.

Bridge Road is a simple roadway that bisects the project area north–south. It is accessed from Auburn Boulevard to the south and Park Road to the north, the latter of which has a bridge crossing over Arcade Creek, which largely parallels Park Road and forms the norther boundary of the project area.



Figure 32. View south through the project area along Bridge Road.



Figure 33. Bridge Road and the bridge crossing at Arcade Creek, view south from the intersection at Park Drive.

The western portion of the project area, which is located west of Bridge Road, is defined by open space with grasses and periodic oak trees. The western-most boundary of this area features a chain-link fence, which encloses the Discovery Museum grounds to the west. The eastern portion of the project area is centered around Renfree Field, its facilities, a playground, and other recreational elements.



Figure 34. Overview of the western portion of the project area, view south from Bridge Road.



Figure 35. Overview of the eastern portion of the project area, view northeast from Auburn Boulevard.

A large rectangular surface parking lot is immediately east Bridge Road and provides facility access to Renfree Field (Figure 36). There are two metal gates at the center and northwest corner parking lot along Bridge Road, and a chain-link fence enclosing the parking lot's north, south, and west sides. The east side of the parking lot is open and provided access to Renfree Field, a typical recreational baseball diamond that is oriented northeast from home plate, which is near the southeast corner of the parking lot (Figure 37). The backstop of the diamond consists of wood beams stacked horizontally behind the home plate and attached to a tall chain-link fence that extends down both foul lines (Figure 38). There are six metal outfield lights across the grass line behind the field (Figure 39). Located on the north and east corner of the diamond are two outfield poles. Behind the backstop on the west and south side are two benches meant for a home and away teams. A chain-link fence encloses the visitor's dugout bench on the west side. There is a concrete pad in a U-shape behind the diamond that connects the benches (Figure 40).

Directly north of the field is an elevated scoreboard with metal beams supporting the square metal board (Figure 41 through Figure 43). The baseball field includes rubber home, 1st, 2nd, and 3rd bases. Two circular metal water fountains are located on the west and south sides by the team benches, and multiple signs are attached to the chain-link fence indicating team dugouts and field usage.



Figure 36. Surface parking lot with Renfree Field, view northeast.



Figure 37. Baseball diamond at Renfree Field with backstop at center, view northeast.



Figure 38. Renfree Field home plate and backstop, view southwest.



Figure 39. Typical chain-link fencing, lighting, and foul ball post at Renfree Field's left field, view north.



Figure 40. Concrete pad and dugout bench at southwest corner of Renfree Field, view south.



Figure 41. Renfree Field's center field with outfield lighting and scoreboard, view northeast.



Figure 42. Renfree Field scoreboard located in the outfield, view northeast.



Figure 43. Overview of the Renfree Field outfield, view east.

To the west of the elevated scoreboard is a utility shed that features a low-pitched roof with a slight eave overhang and open (Figure 44). The shed sits on a low-to-ground concrete foundation. Its walls are vertical wood boards laid in a joint pattern. On the west-facing façade is a metal door with wood casing and a small metal vent. On the north side of the shed, there is a concrete slab.



Figure 44. Utility Shed located north of Renfree Field, view southeast.

South of the baseball field is a playground encased by a concrete sidewalk that extends from the western parking lot (Figure 45). The playground contains multiple slides, climbing bars, and other activities for children. Two cloth awnings supported by metal beams shade the playground. Wood bark covers the surface of the playground. The concrete sidewalk continues east past a set of two concrete tables to the south to another set of tables with a concrete foundation (Figure 46). The sidewalk ends past the tables at an oval-shaped parking lot connecting to Auburn Boulevard. There are multiple accessible parking signs and other park signage. A swinging metal gate is at the entrance to the parking lot from Auburn Boulevard (Figure 47).



Figure 45. Renfree Field playground located south of Renfree Field, view east.



Figure 46. Pathway between the Renfree Field Playground (background) and the southeast adjacent surface parking lot, view west.



Figure 47. Entrance to the Renfree Field Playground surface parking lot, view north from Auburn Boulevard.

Beyond the outfield in the northeast corner of the park is a well that features a plastic aboveground storage water tank, elevated by concrete blocks, and an adjoining pumphouse shed clad with corrugated metal panels (Figure 48). The pumphouse shed sits on a concrete slab foundation and features a flat roof comprised of the same metal as the walls. Multiple pipes extend from pumphouse into the ground, and a chain-link fence surrounds the facility.



Figure 48. Pumphouse and aboveground storage tank at the northeast corner of the project area, view east.

Properties within the Project Area

Previously Identified Resources

ARCHAEOLOGICAL SENSITIVITY

While the NCIC records search found no previously recorded archaeological resources within the project area and the pedestrian survey found no other studies conducted in the vicinity, the positive SLF results and subsequent information provided by Native American tribal representatives suggest that the project area has a high sensitivity for archaeological resources. This means that although no known archaeological resources are located within the project area, and despite the evidence of extensive disturbance associated with grading activities at the park, there is the potential for unknown resources to be extant. This is particularly true at a depth of at least 3 feet below grade.

DEL PASO REGIONAL PARK

The NCIC records search results revealed that, in 2010, the northeast portion of Del Paso Park was surveyed and evaluated as part of a cultural resources assessment in support of the NHPA Section 106 consultation related to the "Del Paso Redevelopment Project," which primarily involve upgrades to the walking trail network. The documentation of Del Paso Park documented the northeast portion of the park and conducted an evaluation of potential eligibility for listing in the NRHP. Overall, the study found that Del Paso Park did not qualify as eligible due to lack of historical significance, particularly within the period between the park's acquisition by the City in 1911 and 1939.

While a full intensive survey and evaluation of the park was not conducted as part of this effort, particularly within the framework of the CRHR and Sacramento Register, the likelihood that Del Paso Park collectively qualifies as a historical resource is low. Since 1939, the park continued to evolve through the construction of numerous amenities and facilities, dynamically changing the built environment and aspects of the landscape. As such, Del Paso Park generally reflects ongoing trends in recreational development and does not represent a specific pattern of recreational development that would collectively qualify as significant. Similarly, the lack of cohesive design and ad hoc evolution of the park from 1911 to the present day suggests that Del Paso Park does not embody a specific recreational property type, reflect artistic value, or represent the work of a master designer, landscape architect, or builder. While the overall park does not represent a cohesive landscape reflective of any one particular period in history, individual buildings, structures, or sites within Del Paso Park may qualify as eligible under the CRHR or Sacramento Register. As such, further evaluation of the facilities within the project area, namely Renfree Field, is warranted.

Resources Requiring Evaluation

To satisfy the requirements for historical resources under CEQA, Renfree Field was documented and evaluated for potential historical significance using the eligibility criteria for the CRHR, as well as for designation as a Sacramento Landmark and listing in the Sacramento Register. California DPR 523 Series forms were prepared for the Renfree Field and include physical descriptions of the existing conditions, a property history and required information, relevant historic contexts, and evaluations per the eligibility criteria for listing in the CRHR and Sacramento Register (Appendix E).

HARRY RENFREE FIELD

California Register of Historical Resources

Criterion 1

The recreational property at Renfree Field does not appear to be historically significant under Criterion 1. Constructed in 1968 as a municipal baseball field catering to amateur recreation, Renfree Field has no significant associations with the development of Sacramento, nor the surrounding neighborhoods in North Sacramento, all of which predate the property's construction. Similarly, Renfree Field has no significant associations with the development of parks and recreation in the Sacramento area. Parks were an essential part of Sacramento's initial development, and the construction of Renfree Field within that context is reflective of the general emphasis on sport as recreation in the postwar period, during which dozens of baseball diamonds were constructed throughout the city, region, and elsewhere in California and the broader United States. Although Renfree Field is notable for its use for local baseball in the amateur and recreational level during the period after its construction, particularly in relation to the development of many professional baseball players hailing from Sacramento, this is reflective of general patterns of use and is typical of many recreational facilities. As such, the association with the development of future professional athletes does not appear to rise to a level of significance under this criterion.

Perhaps the most interesting part of Renfree Field's history is its status as the first recreational and publicly accessible baseball facility in Sacramento that had field lighting, allowing for night games and extended play. While this development is noteworthy, it does not appear to rise to a level of significance under this criterion. The use of lighting provided extended playing time, which was a notable for the facility's use, but does not reflect a broader shift in the patterns of development of recreational baseball or sport. The installation of the lighting is simply a facility improvement that prolonged an existing recreational use beyond typical daytime hours, and is reflective of the general development of recreation through improved amenities and facilities. As such, the use of lighting at Renfree Field as an amenity does not individually rise to a level of significance related to recreation in Sacramento.

Lastly, Renfree Field is not associated with any one specific event that would qualify as significant under this criterion.

Therefore, Renfree Field does not appear to be eligible for listing in the CRHR under Criterion 1.

Criterion 2

The recreational property at Renfree Field does not appear to be historically significant under Criterion 2. Although the baseball facilities are named after Harry Renfree, who was an important promoter of sport and recreation in Sacramento during the postwar period, the naming of the field is purely commemorative in nature. Renfree, who was a superintendent of the City's parks and recreational facilities during the 1960s, had passed away suddenly in 1966, 2 years prior to the construction of the subject baseball field. Although he was involved in the early planning and promotion of the facility, this is true of all recreational facilities in Sacramento during this period. Furthermore, there is no direct association between Harry Renfree and Renfree Field that would qualify as significant under this criterion.

More inherently involved with the development of Renfree Field was Sal H. Gomez. Gomez was a noteworthy businessman, promoter of local sports, and civically involved individual in Sacramento during the second half of the twentieth century. Most associated with founding of the "La Fiesta" brand of tortillas, which were manufactured in Sacramento and distributed throughout Northern California, Gomez was a celebrated entrepreneur and leader within the Sacramento business community. Gomez was also heavily involved in the promotion of sports, particularly golf and baseball. While Gomez was involved as

a leading personality in the funding drive for constructing Renfree Field, particularly the support facilities at the field, this association is representative of just one of his multiple efforts and initiatives within Sacramento. Although there is the potential for Gomez to be considered a locally significant individual, the contributions made by Gomez to history appear to be better reflected in other properties. Renfree Field, and specifically Gomez's involvement in the funding driving to facilitate its construction, with a particular focus on the restrooms and other support facilities, is reflective of Gomez's general civic engagement and does not appear to rise to a level of significance within the context of his contributions to Sacramento.

Lastly, the subject property does not appear to be significantly associated with any specific professional baseball player. While many future major and minor league baseball players from Sacramento in the 1970s onwards would use these facilities, this is a function typical of all baseball fields, of which there are dozens throughout the Sacramento area. Additionally, the status of these players as professional does not equate to significance under this criterion. Any association with Renfree Field is simply its use as a sporting facility with no likely contributions that would qualify as significant under this criterion.

Therefore, Renfree Field does not appear to be eligible for listing in the CRHR under Criterion 2.

Criterion 3

The recreational property at Renfree Field does not appear to be historically significant under Criterion 3. Constructed in 1968 as a typical, municipal baseball field, the property is generally characterized by its vernacular qualities that are consistent with similar facilities located throughout Sacramento, California, and the broader United States. It does not retain any design elements or features related to a particular style or method of construction that would rise to a level of significance under this criterion. Similarly, Renfree Field appears to be a typical example of the baseball field property type. While it was noted at the time of construction for featuring lighting to allow for night games, this is a typical aspect of many baseball fields, which coincides with the other elements of Renfree Field that generally reflect established forms, features, and elements found in community-focused baseball facilities throughout all localities in the United States. The addition of lighting, while a noteworthy amenity to the field's overall function and capacity as a sporting facility, does not rise to a level of significance under this criterion as an example of the pervasive baseball field property type. There is also no specific architect associated with Renfree Field, and it does not appear to reflect the work of a master designer.

Therefore, Renfree Field does not appear to be eligible for listing in the CRHR under Criterion 3.

Criterion 4

The recreational property at Renfree Field does not appear to qualify as historically significant under this criterion. The "potential to yield information important to the prehistory or history of California" typically relates to archaeological resources; however, built environment resources can be considered historically significant if they are a source of information related to evolution and understanding of construction or similar historical themes. The subject recreational property is a typical, twentieth century municipal baseball field, the construction of which is well studied and documented.

Therefore, Renfree Field is not eligible for listing in the CRHR under Criterion 4.

City of Sacramento Landmark Designation

i. It is associated with events that have made a significant contribution to the broad patterns of the history of the city, the region, the state or the nation.

As stated previously, Renfree Field was constructed in the late 1960s and is reflective of the established postwar trend of increased sport as a predominant form of recreation. While baseball diamonds were found in Sacramento park facilities decades prior to WWII, the rise of the neighborhood park and regional recreation center led to the construction of numerous baseball fields throughout the city in the postwar period, of which there were dozens by the time Renfree Field was constructed in the late 1960s. Although Renfree Field is noted as the first lighted baseball diamond in the Sacramento area, this does not appear to rise to a level of historical significance under this criterion. Rather, the use of lighting is a noteworthy amenity that contributed to the facility's initial success by accommodating additional league play beyond typical hours. While this marked an expanded service capability, this does not appear to qualify as significant. Rather, it perpetuated an existing and well established recreational use and primarily provided scheduling flexibility, particularly during the winter months where daylight was at its shortest.

Therefore, Renfree Field does not appear to qualify as eligible for designation as a Sacramento Landmark and listing in the Sacramento Register under Criterion i.

ii. It is associated with the lives of persons significant in the city's past.

As described in the CRHR evaluation under Criterion 2, Renfree Field does not appear to have associations with individuals in a way that would qualify as significant under these criteria. Named after Harry Renfree, the director of the City's parks in the postwar period who died prior to the subject property's construction, the facility at Renfree Field is primarily commemorative in nature. While Renfree was involved in the initial plans for the facility, the same can be said of all recreational facilities throughout the city during his employment at the City. Furthermore, Renfree Field was not entirely an effort by the City, but was rather facilitated by a number of people in the private sector, as well as the general public. Of those, Sal H. Gomez was the most notable. A prominent businessman, civic leader, and promoter of sport and recreation, Gomez was part of the initial funding drive for the development of Renfree Field. Specifically, Gomez spearheaded the effort to raise funds for specific facilities at Renfree Field, including the bleachers and restroom building, both of which are no longer extant. While Gomez was an important part in boosting the viability of Renfree Field, he was involved in multiple civic efforts throughout the city, in addition to his longstanding contributions to Sacramento's business community and the broader development of sports and recreation. As such, Renfree Field does not appear to rise to a level of significance for its associations with Sal H. Gomez under this criterion.

Therefore, Renfree Field does not appear to qualify as eligible for designation as a Sacramento Landmark and listing in the Sacramento Register under Criterion ii.

iii. It embodies the distinctive characteristics of a type, period, or method of construction.

Overall, Renfree Field is a typical baseball field and recreational facility from the second half of the twentieth century. Although baseball diamonds have been a fixture of parks and recreational facilities in Sacramento since the late nineteenth century, they came to particular prominence during the first half of the twentieth century and the first decade of the postwar period. By the time Renfree Field was constructed in the late 1960s, the baseball field was a ubiquitous recreational property type found at nearly all parks throughout the city. While Renfree Field originally demonstrated elevated amenities and features, including restrooms, concession stand, clubhouse with locker rooms, and a press box, this too was characteristic of baseball fields and does not specifically embody the distinctive characteristics of the

property type in a significant fashion. This is exacerbated further by the loss of these facilities, all of which are no longer extant. Perhaps the most notable amenity at Renfree Field was the addition of field lighting, which allowed for extended hours of play. While this is noted as the first use of lighting at a recreational field in Sacramento, these features do not significantly embody a property type, but rather reflect an additional amenity to a pre-existing property type.

Therefore, Renfree Field does not appear to qualify as eligible for designation as a Sacramento Landmark and listing in the Sacramento Register under Criterion iii.

iv. It represents the work of an important creative individual or master.

Renfree Field is not associated with a creative individual or master architect, designer, or builder. It is a typical recreational baseball field that reflects generic and common construction practices.

Therefore, Renfree Field does not appear to qualify as eligible for designation as a Sacramento Landmark and listing in the Sacramento Register under Criterion iv.

v. It possesses high artistic values.

As noted above, Renfree Field is a typical municipal baseball field and recreational facility. It lacks any design features or other inherently artistic qualities that would rise to a level of significance under this criterion.

Therefore, Renfree Field does not appear to qualify as eligible for designation as a Sacramento Landmark and listing in the Sacramento Register under Criterion v.

vi. It has yielded, or may be likely to yield, information important in the prehistory or history of the city, the region, the state, or the nation.

Renfree Field is a typical municipal baseball facility. Constructed in the late 1960s and reflective of the established trends of increased sport as recreation during the postwar period, the documentation and understanding regarding the construction of similar facilities is well documented and understood.

Therefore, Renfree Field does not appear to qualify as eligible for designation as a Sacramento Landmark and listing in the Sacramento Register under Criterion vi.

Summary

Renfree Field does not individually exhibit any historical significance under any of the criteria for eligibility for listing in the CRHR or Sacramento Register. Therefore, Renfree Field does not individually qualify as a historical resource for the purposes of environmental review under CEQA.

IMPACTS ASSESSMENT

Archaeological and Tribal Cultural Resources

Although no previously identified archaeological resource is located within the project area, and no evidence of potential below-ground archaeological resources were observed during the pedestrian survey, the project area has the potential for unknown below-ground resources to be extant. Furthermore, the project area falls within an area identified as having a high sensitivity for archaeological resources. This is due in part to its proximity to previously documented resources within the vicinity, as well as the positive

SLF results received from the NAHC. Informational outreach to Native American tribal representatives and official AB 52 consultation has confirmed areas of heightened sensitivity within the project area. Specifically, the northwestern boundary of the project area that parallels Arcade Creek and is located north of the previously disturbed areas of the Renfree Field baseball diamond, is noted for having heightened sensitivity for undiscovered below-ground tribal cultural resources, as are areas that exceed three feet below the existing grade. The heightened sensitivity overlaying with the project area suggests that the project has the potential to result in significant impacts to unknown below ground archaeological and tribal cultural resources.

However, these potential impacts can be reduced to **less than significant** through the execution of specific mitigation measures.

Historical Resources

Based on the CHRIS records search results from the NCIC, including a review of previous studies and other background documentation, no previously recorded historical resource is known to exist within the project area. Del Paso Park was documented and previously evaluated and found ineligible for listing in the NRHP. These efforts focused on the northeast portion of the park, which coincides with the project area, and the park's overall development from the earliest planning efforts in 1914 through 1939. While full documentation of Del Paso Park was not within the scope of this report, an in-depth review of the park's history and existing conditions suggests that the ineligibility of Del Paso Park extends to the CRHR and Sacramento Register level as well. As outlined briefly in this report, Del Paso Park reflects the general evolution of parks in the city and does not appear to rise to a level of historical significance under associated criteria. Similarly, the park's evolution over the last century does not reflect a single, cohesive plan or design, but rather an organic development that has transitioned to meet the shifting needs and trends in public recreation. Similarly, the park is not associated with any one individual and is unlikely to yield significant information. As such, Del Paso Park does not appear to qualify as a historical resource for the purposes of CEQA.

Specific to Harry Renfree Field, the intensive survey of the property found that the recreational baseball facilities at the center of the project area do not qualify as individually eligible for listing in the CRHR or Sacramento Register as a designated Sacramento Landmark due to lack of historical significance. Similarly, the property does not appear to be a contributor to a larger Del Paso Park property. As such, Renfree Field does not appear to qualify as a historical resource for the purposes of environmental review under CEQA.

Therefore, the proposed project will have **no impact** on historical resources.

Mitigation Measures

The impacts to cultural resources identified above are specific to the perceived high sensitivity for archaeological resources and the potential for significant tribal cultural resources in the project vicinity, as illustrated in the positive SLF search results and through informational outreach efforts. To reduce the potential impacts of the project to a **less-than-significant** level on cultural resources within the project area, the following mitigation measures are proposed.

Archaeological Resource Mitigation Measures

CUL-1: PRECONSTRUCTION CULTURAL RESOURCE SENSITIVITY TRAINING

Prior to the start of any subsurface excavations that would extend beyond previously disturbed soils, the City shall require the contractor to provide a cultural and tribal cultural resources sensitivity and awareness training program (Worker Environmental Awareness Program [WEAP]) for all personnel involved in project construction, including field consultants and construction workers. The training will be developed in coordination with qualified cultural resources specialists.. The City may invite Native American tribal representatives from interested culturally affiliated Native American tribes to participate, including the UAIC. The training shall be conducted before any construction activities begin 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 WEAP training 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.

CUL-2: ARCHAEOLOGICAL CONSTRUCTION MONITORING

A qualified archaeologist that meets the Secretary of the Interior's Professional Qualification Standards for archaeology shall be on-site to monitor for potential unknown archaeological resources in areas of heightened archaeological sensitivity during ground-disturbing construction activities. These areas of sensitivity are identified site wide as areas where the depth of excavation exceeds three feet (see Figure 6), as well as any ground disturbing activities exceeding six inches in areas located north of the current Renfree Field outfield, towards Arcade Creek. In the event that cultural materials are identified during monitoring, the qualified monitor and construction crew shall adhere to all relevant unanticipated discovery protocols.

CUL-3 UNANTICIPATED DISCOVERY PROTOCOLS

If buried cultural materials are encountered during construction, work will be stopped immediately in that area until the archaeologist and Native American monitor can evaluate the nature and significance of the find. The City and identified Native American tribal representatives will be notified immediately and appropriate next steps will be enacted. Avoidance is the preferred treatment wherever feasible, although other treatments, including additional testing, excavation, data recovery, and reburial may be explored in close consultation with qualified City staff, consulting archaeologists, and representatives of Native American tribes.

Where further study, survey, and testing methods are required, a Testing and Data Recovery Plan shall be prepared by a qualified archaeologist and provided to the City and Native American tribal representatives for review and approval. All testing and data recovery efforts will be documented in an Archaeological Resources Testing Report, which will be submitted to the City. Only following the execution of the testing program, or through the approval by the City and Native American tribal representatives, shall construction resume. Construction monitoring shall continue throughout the duration of all ground-disturbing activities.

CUL-4: UNANTICIPATED DISCOVERY OF HUMAN REMAINS

In accordance with California Health and Safety Code Section 7050.5 and PRC Section 5097.98, if human remains are encountered during construction, all work shall be halted in the immediate vicinity (within 50 feet) of the find. If the on-site archaeological monitor, Native American monitor, and principal investigator suspect that a discovery includes human remains, the City and the Sacramento County Coroner shall be contacted immediately.

The Coroner would have two working days to examine the remains after being notified in accordance with California Health and Safety Code Section 7050.5. If the Coroner determines that the remains are Native American and are not subject to the Coroner's authority, the Coroner has 24 hours to notify the NAHC of the discovery.

The NAHC would immediately designate and notify the Native American Most Likely Descendant, who will have 48 hours after being granted access to the location of the remains to inspect them and make recommendations for their treatment and disposition. Work will be suspended in the area of the find until the landowner, in consultation with the Native American Most Likely Descendant, approves the proposed treatment of the human remains and any associated funerary objects. In addition, the City will ensure that the remains are protected from damage or further disturbance of any sort until such decisions can be made and actions can be undertaken.

Tribal Cultural Resources

TCR-1: TRIBAL CULTURAL RESOURCES SENSITIVITY AWARENESS TRAINING

The WEAP training outlined under mitigation measure CUL-1 will be developed in coordination with the consulting and/or culturally affiliated Native American tribes to ensure appropriate information is presented to contractor and field staff related to tribal cultural resources. The WEAP training shall also describe appropriate avoidance and impact minimization measures for tribal cultural resources that could be located at the project site and will outline what to do and who to contact if any potential tribal cultural resources are encountered. The WEAP 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.

TCR-2: NATIVE AMERICAN TRIBAL MONITORING

A Native American Tribal Monitor (Tribal Monitor) shall be contracted to perform construction monitoring duties as representatives of associated Tribal governments, specifically the UAIC. The use of the Tribal Monitor shall only occur in areas where ground disturbing activities are occurring at locations or depths identified as having heightened significance. Generally, monitoring would be required where the depth of disturbance exceeds three feet below grade; however, activities within the northern boundary beyond the current Renfree Field outfield that exceed a depth of disturbance of six inches below grade would also trigger Tribal Monitoring.

Consulting Tribes, including the UAIC, shall be notified at least two (2) weeks prior to the triggering ground disturbing activities are scheduled to occur so that a qualified Tribal Monitor may be contracted. Notification for the selected Tribal Monitor to mobilize shall be provided 48 hours prior to the ground disturbing activity.

The Tribal Monitor will document monitoring activities in a Tribal Monitor log, which will be compiled and provided to the City and/or contractor as part of the administrative record. In the event that cultural materials are identified as part of the monitoring process, only the Tribal Monitor or other qualified

representative of a consulting Native American Tribe has the expertise to formally identify any Tribal Cultural Resources or other objects,

TCR-3: UNANTICIPATED DISCOVERY PROTOCOLS

Similar to mitigation measure CUL-2 related to inadvertent discoveries, tribal cultural resources (such as structural features, unusual amounts of bone or shell, artifacts, or human remains) are encountered at the project site during construction, work shall be suspended within 100 feet of the find (based on the apparent distribution of cultural resources), and the construction contractor shall immediately notify the project's City representative. Avoidance and preservation in place is the preferred manner of mitigating impacts to tribal cultural resources. This will be accomplished, if feasible, by several alternative means, including:

- Planning construction to avoid tribal cultural resources, archaeological sites and/or other cultural resources; incorporating cultural resources within parks, green-space or other open space; covering archaeological resources; 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 will be reviewed by the City representative, interested culturally affiliated Native American tribes and other appropriate agencies, in light of factors such as costs, logistics, feasibility, design, technology and social, cultural and environmental considerations, and the extent to which avoidance is consistent with project objectives. Avoidance and design alternatives may include realignment within the project site to avoid tribal cultural resources, modification of the design to eliminate or reduce impacts to tribal cultural resources or modification or realignment to avoid highly significant features within a cultural resource or tribal cultural resource.
- Native American representatives from interested culturally affiliated Native American tribes will be notified 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 tribal cultural resource can be avoided, the construction contractor(s) will install protective fencing outside the site boundary, including a 100-foot buffer area, before construction restarts. The boundary of a tribal cultural resource will be determined in consultation with interested culturally affiliated Native American tribes and tribes will be notified to monitor the installation of fencing. Use of temporary and permanent forms of protective fencing will be determined in consultation with Native American representatives from interested culturally affiliated Native American tribes.
- The construction contractor(s) will maintain the protective fencing throughout construction to avoid the site during all remaining phases of construction. The area will be demarcated as an "Environmentally Sensitive Area".

If a tribal cultural resource cannot be avoided, the following performance standard 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, as applicable.

If a tribal cultural resource is determined to be eligible for listing in the CRHR, the City will avoid damaging effects to the resource in accordance with California PRC Section 21084.3, if feasible. The City shall coordinate the investigation of the find with a qualified archaeologist (meeting the Secretary of the Interior's Professional Qualifications Standards for Archeology) approved by the City and with interested culturally affiliated Native American tribes that respond to the City's notification. 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 that are not implemented, a justification for why the recommendation was not followed will be provided in the project record.

Native American representatives from interested culturally affiliated Native American Tribes and the City representative will also consult to develop measures for long-term management of any discovered tribal cultural resources. Consultation will be limited to actions consistent with the jurisdiction of the City and taking into account ownership of the subject property. To the extent that the City has jurisdiction, routine operation and maintenance within tribal cultural resources retaining tribal cultural integrity shall be consistent with the avoidance and minimization standards identified in this mitigation measure.

If the City determines that the project may cause a significant impact 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:

- 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.
- Treat the resource with culturally appropriate dignity taking into account the Tribal cultural values and meaning of the resource, including, but not limited to, the following:
    - Protect the cultural character and integrity of the resource.
    - Protect the traditional use of the resource.
    - Protect the confidentiality of the resource.
- Establish permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or using the resources or places.
- Protect the resource.

TCR-4 TRIBAL-CULTURAL PROTOCOLS FOR INADVERTENT DISCOVERY OF HUMAN REMAINS

As outlined under mitigation measure CUL-4, if an inadvertent discovery of human remains is made at any time during project-related construction activities or project planning, the City will ensure that the following performance standards shall be met prior to implementing or continuing actions such as

construction, which may result in damage to or destruction of human remains. In accordance with the California Health and Safety Code (HSC), if human remains are encountered during ground-disturbing activities, the City shall immediately halt potentially damaging excavation in the area of the remains and notify the Sacramento County Coroner and a 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 (HSC Section 7050.5[b]).

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 HSC Section 7000 (et seq.) regarding the disinterment and removal of non-Native American human remains.

If the Coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (HSC Section 7050[c]). After the Coroner's findings have been made, the archaeologist and the NAHC-designated Most Likely Descendant (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.

CONCLUSION

The proposed project calls for the redevelopment of the 1968 Renfree Field and adjacent parklands within the eastern portion of Del Paso Park in northeastern Sacramento. This cultural resources technical report included a CHRIS records search, an NAHC SLF search request, an archaeological pedestrian survey, and an intensive survey of the built environment to identify potential cultural resources for the purposes of environmental review under CEQA.

Specific to the built environment and historical resources, the project area was surveyed and the facilities at Renfree Field were evaluated for potential historical significance using the eligibility criteria for listing in the CRHR and Sacramento Register. The property history, existing conditions, and associated historical contexts suggest that Renfree Field does not qualify as eligible for either inventory program and, therefore, does not appear to be a historical resources for the purposes of CEQA

Regarding archaeological resources and tribal cultural resources, efforts to identify previous resources using a variety of sources and methods found that while there are no known resources within the project area, there is a high sensitivity for unknown archaeological resources to be present, particularly at a below-grade depth of at least 3 feet.

An impacts assessment of the project found that while the project will have no impact on historical resources, there is the potential for significant impacts to unknown archaeological resources, particularly during ground-disturbing activities during construction. However, through the implementation of mitigation measures, as outlined in this document, these potentially significant impacts can be mitigated to a less-than-significant level.

Therefore, for the purposes of review under CEQA, SWCA recommends that the project will have a less-than-significant impact on cultural resources with implementation of the mitigation measures.

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APPENDIX A

NCIC Records Search Results

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
000127		1972	Johnson, Jerald J.	Present Status of Archeological Resources in Sacramento County. Overview	Sacramento State College, Department of Anthropology	34-000028, 34-000029, 34-000030, 34-000031, 34-000032, 34-000033, 34-000034, 34-000035, 34-000036, 34-000037, 34-000038, 34-000039, 34-000040, 34-000041, 34-000042, 34-000043, 34-000044, 34-000045, 34-000046, 34-000047, 34-000048, 34-000049, 34-000050, 34-000051, 34-000052, 34-000053, 34-000054, 34-000055, 34-000056, 34-000057, 34-000058, 34-000059, 34-000060, 34-000061, 34-000062, 34-000063, 34-000064, 34-000065, 34-000066, 34-000067, 34-000068, 34-000069, 34-000070, 34-000071, 34-000072, 34-000073, 34-000074, 34-000075, 34-000076, 34-000077, 34-000078, 34-000079, 34-000080, 34-000081, 34-000082, 34-000083, 34-000084, 34-000085, 34-000086, 34-000087, 34-000088, 34-000089, 34-000090, 34-000091, 34-000092, 34-000093, 34-000094, 34-000095, 34-000096, 34-000097, 34-000098, 34-000099, 34-000100, 34-000101, 34-000102, 34-000103, 34-000104, 34-000105, 34-000106, 34-000107, 34-000108, 34-000109, 34-000110, 34-000111, 34-000112, 34-000113, 34-000114, 34-000115, 34-000116, 34-000117, 34-000118, 34-000119, 34-000120, 34-000121, 34-000122, 34-000123, 34-000124, 34-000125, 34-000126, 34-000127, 34-000128, 34-000129, 34-000130, 34-000131, 34-000132, 34-000133, 34-000134, 34-000135, 34-000136, 34-000137, 34-000138, 34-000139, 34-000140, 34-000141, 34-000142, 34-000143, 34-000144, 34-000145, 34-000146, 34-000147, 34-000148, 34-000149, 34-000150, 34-000151, 34-000152, 34-000153, 34-000154, 34-000155, 34-000156, 34-000157, 34-000158, 34-000159, 34-000160, 34-000161, 34-000162, 34-000163, 34-000164, 34-000165,

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
						34-000166, 34-000167, 34-000168, 34-000169, 34-000170, 34-000171, 34-000172, 34-000173, 34-000174, 34-000175, 34-000176, 34-000177, 34-000178, 34-000179, 34-000180, 34-000181, 34-000182, 34-000184, 34-000185, 34-000186, 34-000187, 34-000188, 34-000189, 34-000190, 34-000191, 34-000192, 34-000193, 34-000194, 34-000195, 34-000196, 34-000197, 34-000198, 34-000199, 34-000200, 34-000201, 34-000202, 34-000203, 34-000204, 34-000205, 34-000206, 34-000207, 34-000208, 34-000209, 34-000210, 34-000211, 34-000212, 34-000213, 34-000214, 34-000215, 34-000216, 34-000217, 34-000218, 34-000219, 34-000220, 34-000221, 34-000222, 34-000224, 34-000225, 34-000226, 34-000227, 34-000228, 34-000229, 34-000230, 34-000231, 34-000232, 34-000233, 34-000234, 34-000235, 34-000236, 34-000237, 34-000238, 34-000239, 34-000240, 34-000241, 34-000242, 34-000243, 34-000244, 34-000245, 34-000246, 34-000247, 34-000248, 34-000249, 34-000250, 34-000251, 34-000252, 34-000253, 34-000254, 34-000255, 34-000256, 34-000257, 34-000258, 34-000259, 34-000260, 34-000261, 34-000262, 34-000263, 34-000264, 34-000265, 34-000266, 34-000267, 34-000268, 34-000269, 34-000270, 34-000271, 34-000273, 34-000274, 34-000275, 34-000277, 34-000278, 34-000279, 34-000280, 34-000281, 34-000282, 34-000283, 34-000284, 34-000285, 34-000286, 34-000287, 34-000288, 34-000289, 34-000290, 34-000291, 34-000292, 34-000293, 34-000294, 34-000295, 34-000296

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
000176		1978	Dondero, Steven	An Archeological Reconnaissance of Sewer Alignments for the Natomas Interceptor System, Sacramento, California.	Archeological Study Center, Dept of Anthropology, CSU Sacramento	34-000053, 34-000058, 34-000059, 34-000066, 34-000307, 34-000333, 34-000343
000314		1982	Weigel, Lawrence E.	Archeological Survey Report for the Proposed Watt Avenue/State Route 51 Overcrossing Widening Projec 03-SAC-51 PM 8.0/8.1 03290 - 253400.	Caltrans	
000614		2001	Keefer, Margaret	Park Road Sewage Pumping Station Demolition	Sacramento County Department of Environmental Review and Assessment	
006385		1997	Tremaine, Kim	Re: Results of Archaeological Monitoring for the Park Road Sewage Pumping Station (S-14)	Tremaine & Associates, Inc.	34-000228
013886		2010	James Combs, Susan Stratton, and Milford Wayne Donaldson	Section 106 Approval for FY08/09 RTP Non-Motorized Project RT-34-016, Improving Del Paso Regional Park's Trails, City of Sacramento (FHWA101014A)	Department of Parks and Recreation; OHP	34-004267
013886A		2010	Michael Dice	Section 106 Impact Analysis for the Del Paso Park Redevelopment Project	Michael Brandman Associates	

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-34-000228	CA-SAC-000201	Resource Name - Arcade Creek Site	Site	Prehistoric	AP16	1955 (Curtice, Sacramento State College, American River Junior College); 2001 (Eleanor, Richard Derr, Cultural Resources Unlimited)	000127, 006385, 006393
P-34-004267		Resource Name - Del Paso Park; Other - Del Paso Regional Park; Other - Rancho Del Paso Thouroughbred Farm	Site	Historic	HP19; HP25; HP29; HP30; HP31	2010 (Michael H. Dice, michael Brandman Associates)	013886

APPENDIX B

NAHC Sacred Land Files Search Request Response

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
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EXECUTIVE SECRETARY
Raymond C. Hitchcock
Miwok/Nisenan

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

December 13, 2022

Brandon Foster
SWCA Environmental Consultants

Via Email to: brandon.foster@swca.com

Re: Renfree Field Renovations at Del Paso Park Project, Sacramento County

Dear Mr. Foster:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information submitted for the above referenced project. The results were positive. Please contact the United Auburn Indian Community of the Auburn Rancheria on the attached list for information. Please note that tribes do not always record their sacred sites in the SLF, nor are they required to do so. A SLF search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with a project's geographic area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites, such as the appropriate regional California Historical Research Information System (CHRIS) archaeological Information Center for the presence of recorded archaeological sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. Please contact all of those listed; if they cannot supply information, they may recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Pricilla.Torres-Fuentes@nahc.ca.gov.

Sincerely,

Pricilla Torres-Fuentes

Pricilla Torres-Fuentes
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Sacramento County
12/13/2022

Buena Vista Rancheria of Me-Wuk Indians
Rhonda Morningstar Pope, Chairperson
1418 20th Street, Suite 200 — Me-Wuk
Sacramento, CA, 95811
Phone: (916) 491 - 0011
Fax: (916) 491-0012
rhonda@buenavistatribe.com

Ione Band of Miwok Indians
Sara Dutschke, Chairperson
9252 Bush Street — Miwok
Plymouth, CA, 95669
Phone: (209) 245 - 5800
consultation@ionemiwok.net

Shingle Springs Band of Miwok Indians
Regina Cuellar, Chairperson
P.O. Box 1340 — Maidu
Shingle Springs, CA, 95682 — Miwok
Phone: (530) 387 - 4970
Fax: (530) 387-8067
rcuellar@ssband.org

Tsi Akim Maidu
Grayson Coney, Cultural Director
P.O. Box 510 — Maidu
Browns Valley, CA, 95918
Phone: (530) 383 - 7234
tsi-akim-maidu@att.net

United Auburn Indian Community of the Auburn Rancheria
Gene Whitehouse, Chairperson
10720 Indian Hill Road — Maidu
Auburn, CA, 95603 — Miwok
Phone: (530) 883 - 2390
Fax: (530) 883-2380
bguth@auburnrancheria.com

Wilton Rancheria
Dahlton Brown, Director of Administration
9728 Kent Street — Miwok
Elk Grove, CA, 95624
Phone: (916) 683 - 6000
dbrown@wiltonrancheria-nsn.gov

Wilton Rancheria
Jesus Tarango, Chairperson
9728 Kent Street — Miwok
Elk Grove, CA, 95624
Phone: (916) 683 - 6000
Fax: (916) 683-6015
jtarango@wiltonrancheria-nsn.gov

Wilton Rancheria
Steven Hutchason, THPO
9728 Kent Street — Miwok
Elk Grove, CA, 95624
Phone: (916) 683 - 6000
Fax: (916) 863-6015
shutchason@wiltonrancheria-nsn.gov

Colfax-Todds Valley Consolidated Tribe
Pamela Cubbler, Treasurer
P.O. Box 4884 — Maidu
Auburn, CA, 95604 — Miwok
Phone: (530) 320 - 3943
pcubbler@colfaxrancheria.com

Colfax-Todds Valley Consolidated Tribe
Clyde Prout, Chairperson
P.O. Box 4884 none — Maidu
Auburn, CA, 95604 — Miwok
Phone: (916) 577 - 3558
miwokmaidu@yahoo.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Renfree Field Renovations at Del Paso Park Project, Sacramento County.

APPENDIX C

SWCA Request for Information Letters to Tribal Representatives

SWCA®
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60 Stone Pine Road, Suite 100
Half Moon Bay, California 94019
Tel 650.440.4160 Fax 650.440.4165
www.swca.com

January 27, 2023

Clyde Prout, Chairperson
Colfax-Todds Valley Consolidated Tribe
P.O. Box 4884
Auburn, CA 95604

Re: Cultural Resources Technical Report for the Renfree Field Renovation Project, Sacramento County, California / SWCA Project No. 74845

Dear Chairperson Clyde Prout:

SWCA Environmental Consultants (SWCA) was contracted by the City of Sacramento to prepare a cultural resources technical report in support of the Renfree Field Renovation Project (project) located in Sacramento, California. The project is subject to compliance with the California Environmental Quality Act (CEQA); the City of Sacramento will be the lead agency.

The proposed project is located within the larger Del Paso Regional Park in the northwest portion of the City of Sacramento. Del Paso Regional Park is an approximately 630-acre, multi-use park and includes Harry Renfree Field (Renfree Field). The park is bounded by Park Road to the north, the on and off ramps to Highway 244 to the east, Auburn Boulevard to the south, and Watt Avenue to the west.

The proposed project would replace Renfree Field with two baseball fields oriented opposite each other and develop a 210-foot-by-330-foot soccer field, which would be striped and overlap the outfields. The new orientation would be developed in the northeast portion of the project site. Associated infrastructure such as bleachers, bullpens, shaded dugouts, lighting, and connecting sidewalks would be replaced.

The northern portion of the existing western parking lot would be redesigned to include a full-sized asphalt basketball court and two pickleball courts with benches and fencing. The southern portion of the existing western parking lot would be redesigned to accommodate an approximately 36-space vehicle parking lot with two-way access via Bridge Road. A parking gate would be placed at the entry and a bio-swale would be sited to provide stormwater filtration prior to entering the storm drain.

The proposed on-site walkway and right-of-way improvements along Auburn Boulevard would extend from the east at the existing children's playground west across Bridge Road to the edge of the Owl Creek riparian area and would connect the new and existing park features. The proposed project would also include new lighting for the walkway, parking lot, sports courts, and baseball fields. Existing improvements such as the playground and the parking lot on the east side of the project site will remain.

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A search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was submitted on November 22, 2022, with **positive** results.

SWCA is requesting any additional information you may have regarding properties, features, or cultural materials within the Project area (see attached) that may be of concern to local Native Americans.

Any comments you may have regarding cultural resources in this area would be greatly appreciated. Please feel free to contact me with any concerns, or if you have additional questions about the project. You may reach me by phone at (925)399-9220 or email me at Christina.Alonso@swca.com.

Thank you for your time and assistance in this matter, I look forward to hearing from you.

Sincerely,

Christina Alonso
Senior Project Manager
Attachment 1 – Project Maps

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ATTACHMENT 1

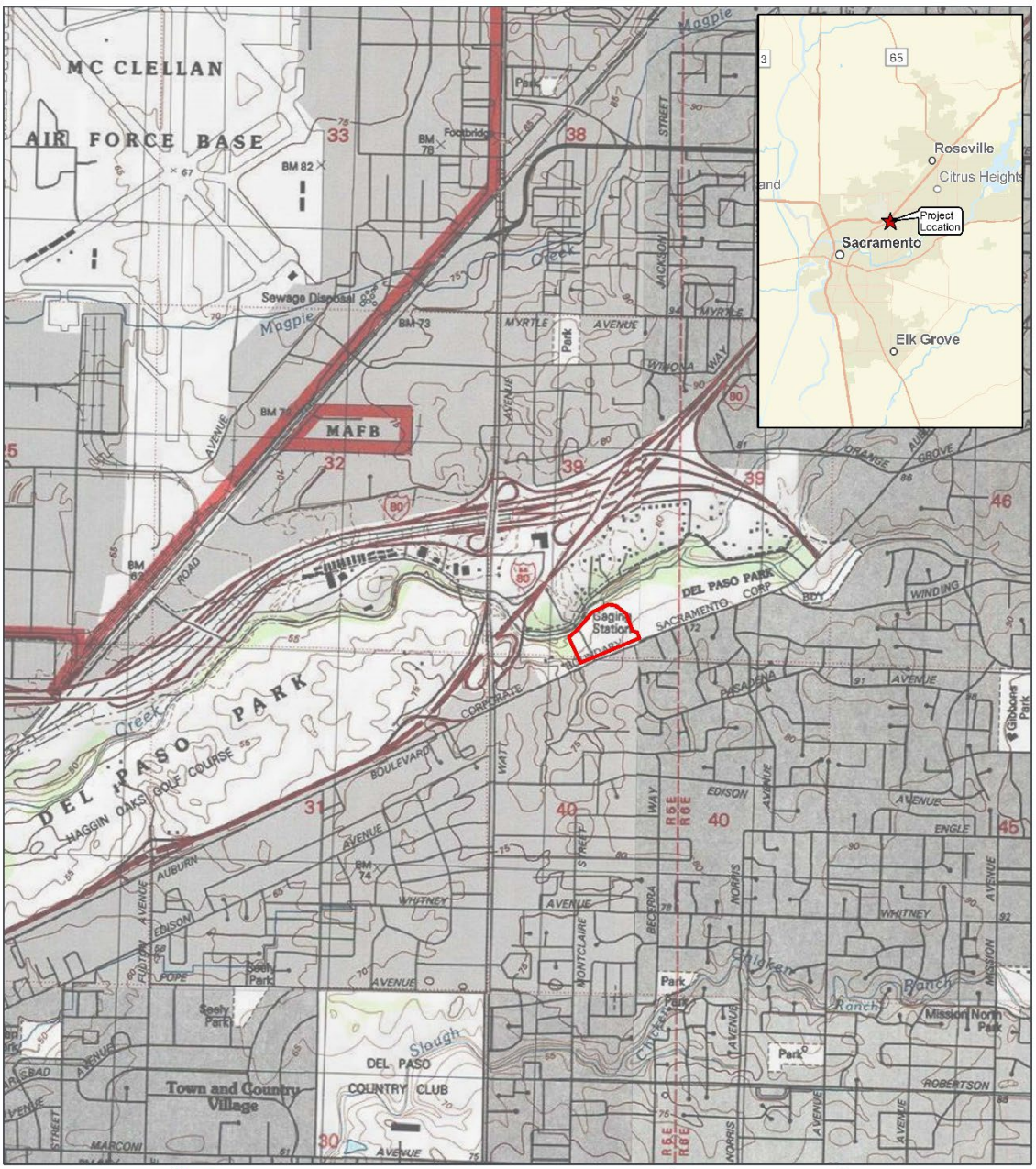
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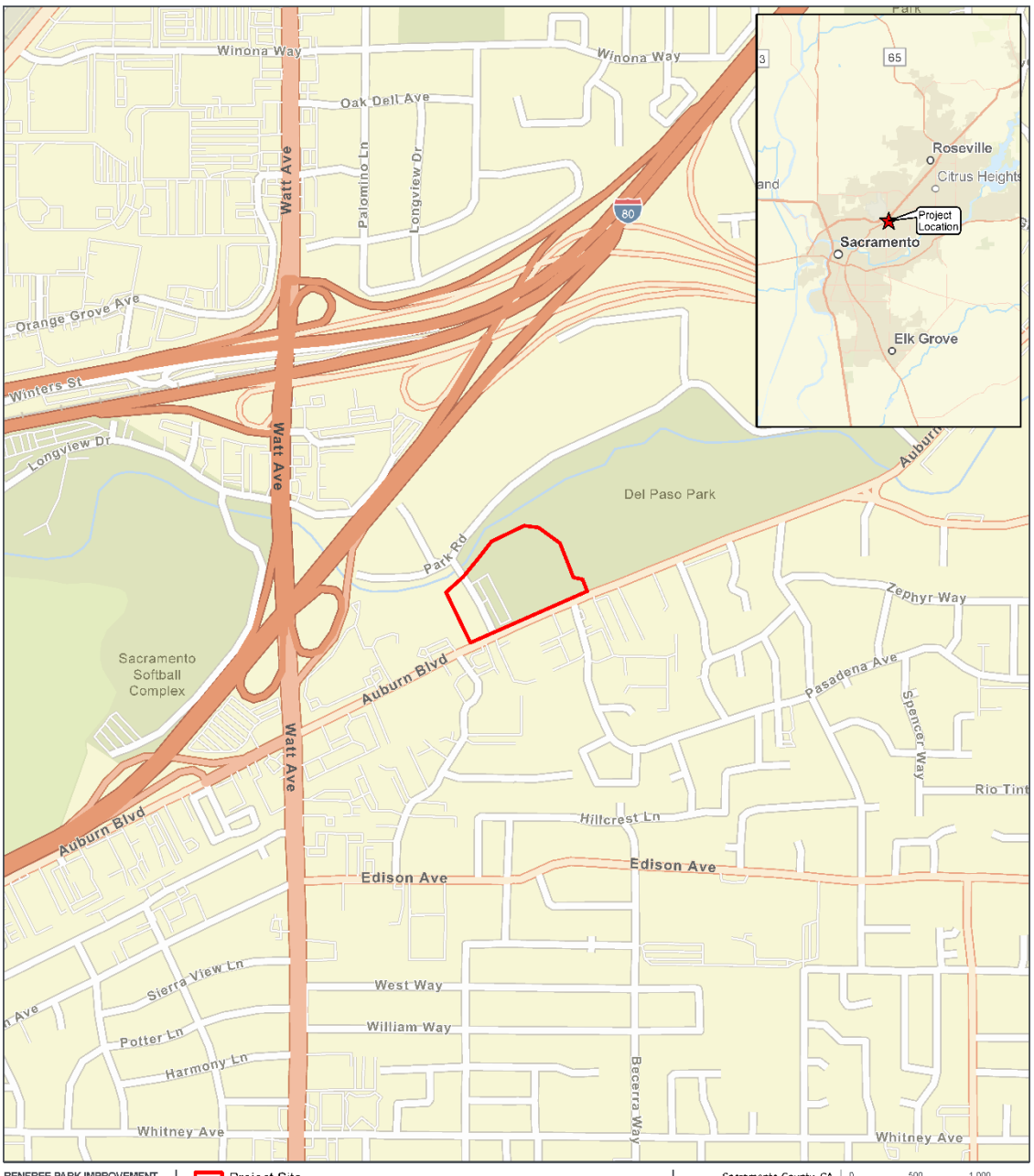
USGS 7.5-Minute Aerial Map of Sacramento County, California, depicting the project area.

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USGS 7.5-Minute Topographic Map of Sacramento County, California, depicting the project area.

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Regional project location map.

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60 Stone Pine Road, Suite 100
Half Moon Bay, California 94019
Tel 650.440.4160 Fax 650.440.4165
www.swca.com

January 27, 2023

Dahlton Brown, Director of Administration
Wilton Rancheria
9728 Kent Street
Elk Grove, CA 95624

Re: Cultural Resources Technical Report for the Renfree Field Renovation Project, Sacramento County, California / SWCA Project No. 74845

Dear Director of Administration Dahlton Brown:

SWCA Environmental Consultants (SWCA) was contracted by the City of Sacramento to prepare a cultural resources technical report in support of the Renfree Field Renovation Project (project) located in Sacramento, California. The project is subject to compliance with the California Environmental Quality Act (CEQA); the City of Sacramento will be the lead agency.

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Sincerely,

Christina Alonso
Senior Project Manager
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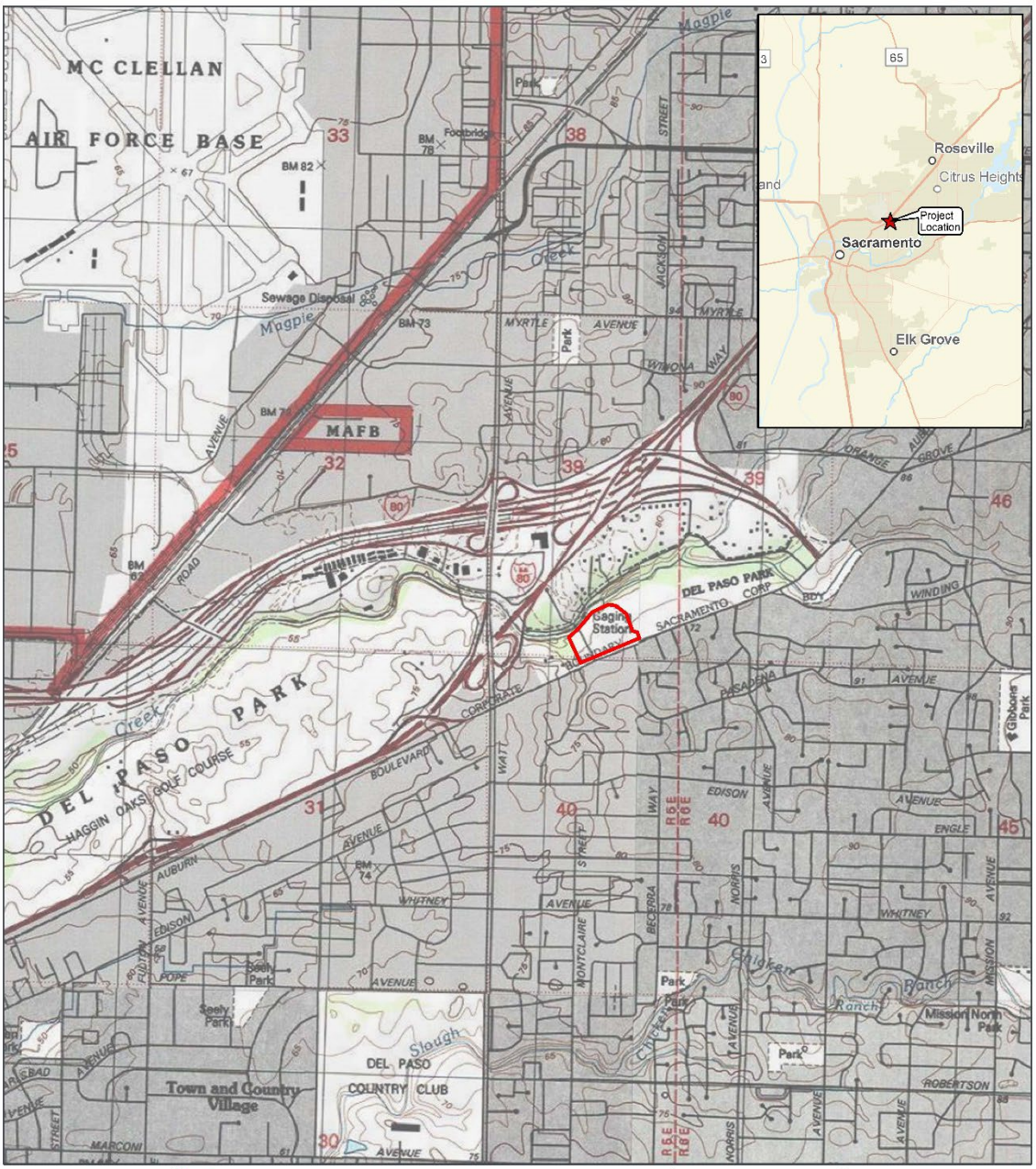
Project Maps

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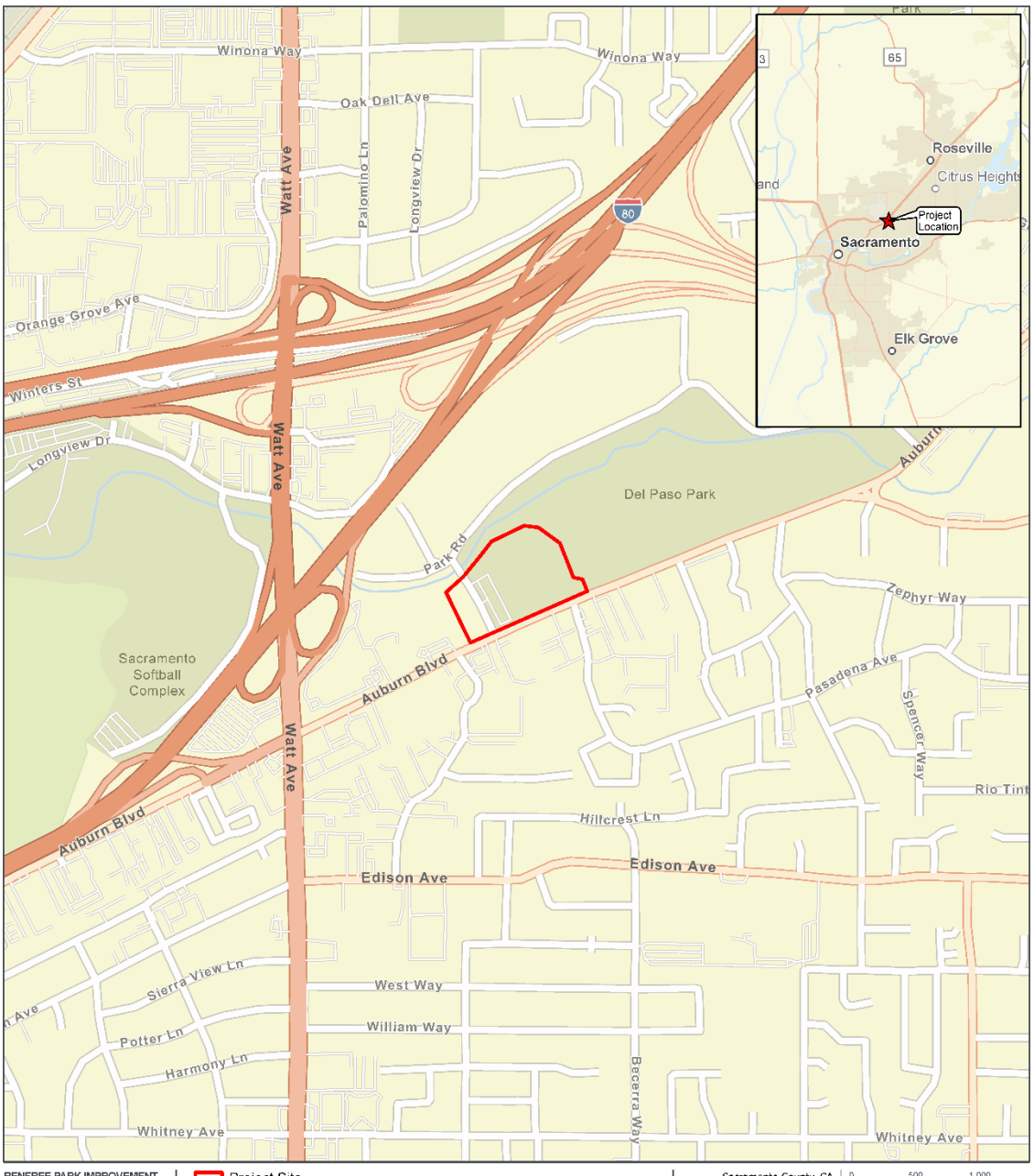
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Half Moon Bay, California 94019
Tel 650.440.4160 Fax 650.440.4165
www.swca.com

January 27, 2023

Grayson Coney, Cultural Director
Tsi Akim Maidu
P.O. Box 510
Brown Valley, CA 95918

Re: Cultural Resources Technical Report for the Renfree Field Renovation Project, Sacramento County, California / SWCA Project No. 74845

Dear Cultural Director Grayson Coney:

SWCA Environmental Consultants (SWCA) was contracted by the City of Sacramento to prepare a cultural resources technical report in support of the Renfree Field Renovation Project (project) located in Sacramento, California. The project is subject to compliance with the California Environmental Quality Act (CEQA); the City of Sacramento will be the lead agency.

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Sincerely,

Christina Alonso
Senior Project Manager
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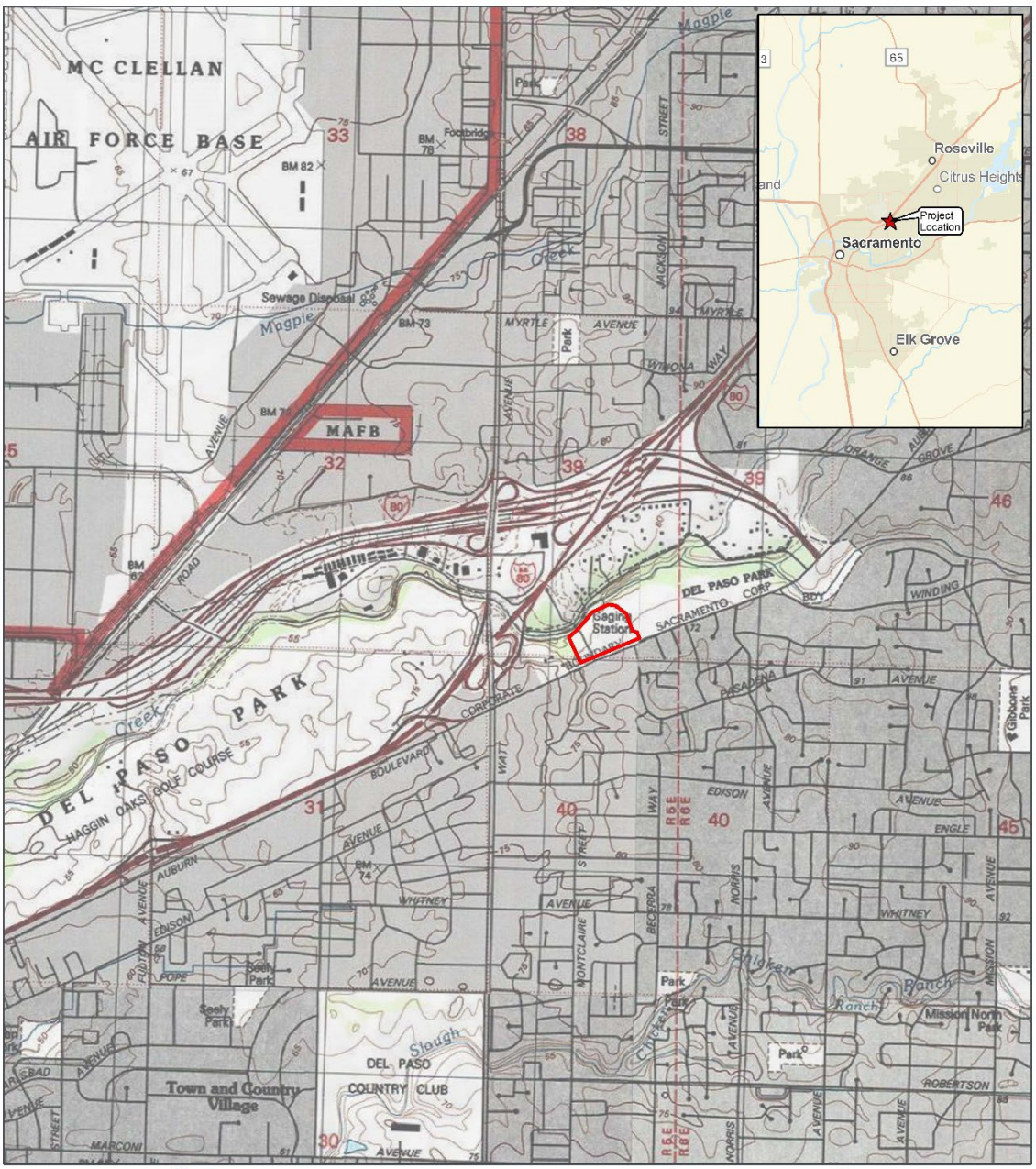
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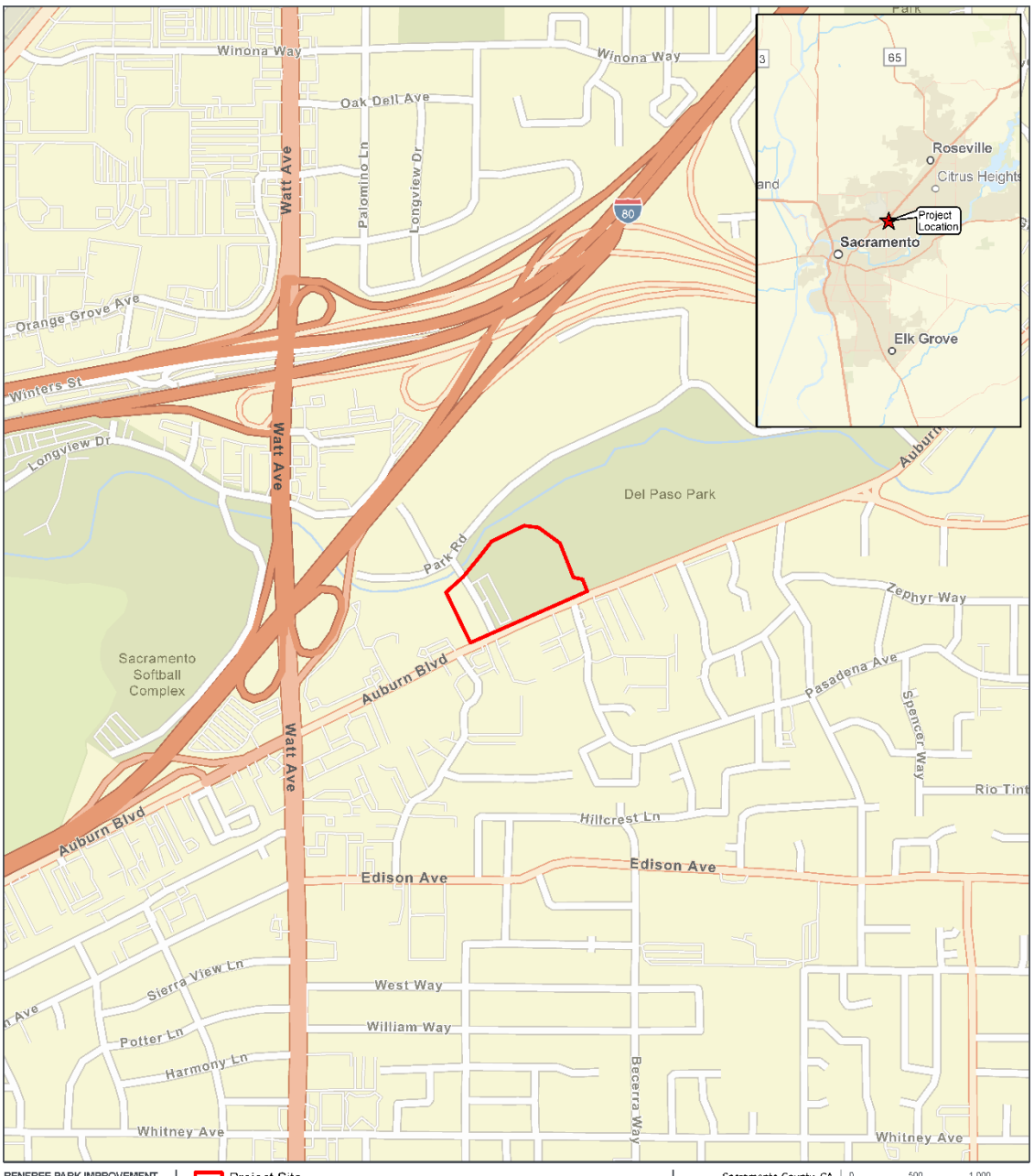
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Regional project location map.

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60 Stone Pine Road, Suite 100
Half Moon Bay, California 94019
Tel 650.440.4160 Fax 650.440.4165
www.swca.com

January 27, 2023

Gene Whitehouse, Chairperson
United Auburn Indian Community of the Auburn Rancheria
10720 Indian Hill Road
Auburn, CA 95603

Re: Cultural Resources Technical Report for the Renfree Field Renovation Project, Sacramento County, California / SWCA Project No. 74845

Dear Chairperson Gene Whitehouse:

SWCA Environmental Consultants (SWCA) was contracted by the City of Sacramento to prepare a cultural resources technical report in support of the Renfree Field Renovation Project (project) located in Sacramento, California. The project is subject to compliance with the California Environmental Quality Act (CEQA); the City of Sacramento will be the lead agency.

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Thank you for your time and assistance in this matter, I look forward to hearing from you.

Sincerely,

Christina Alonso
Senior Project Manager
Attachment 1 – Project Maps

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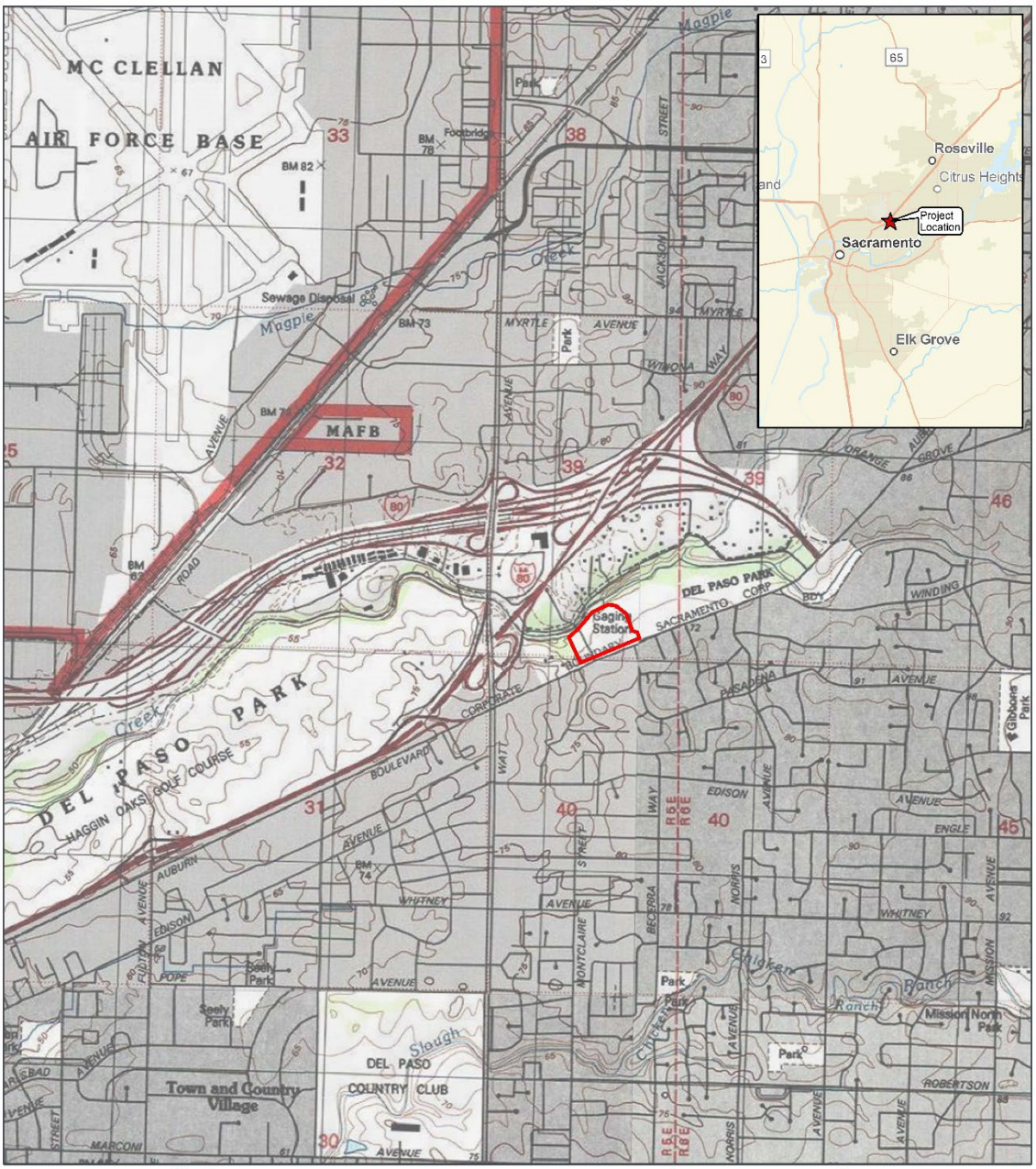
Project Maps

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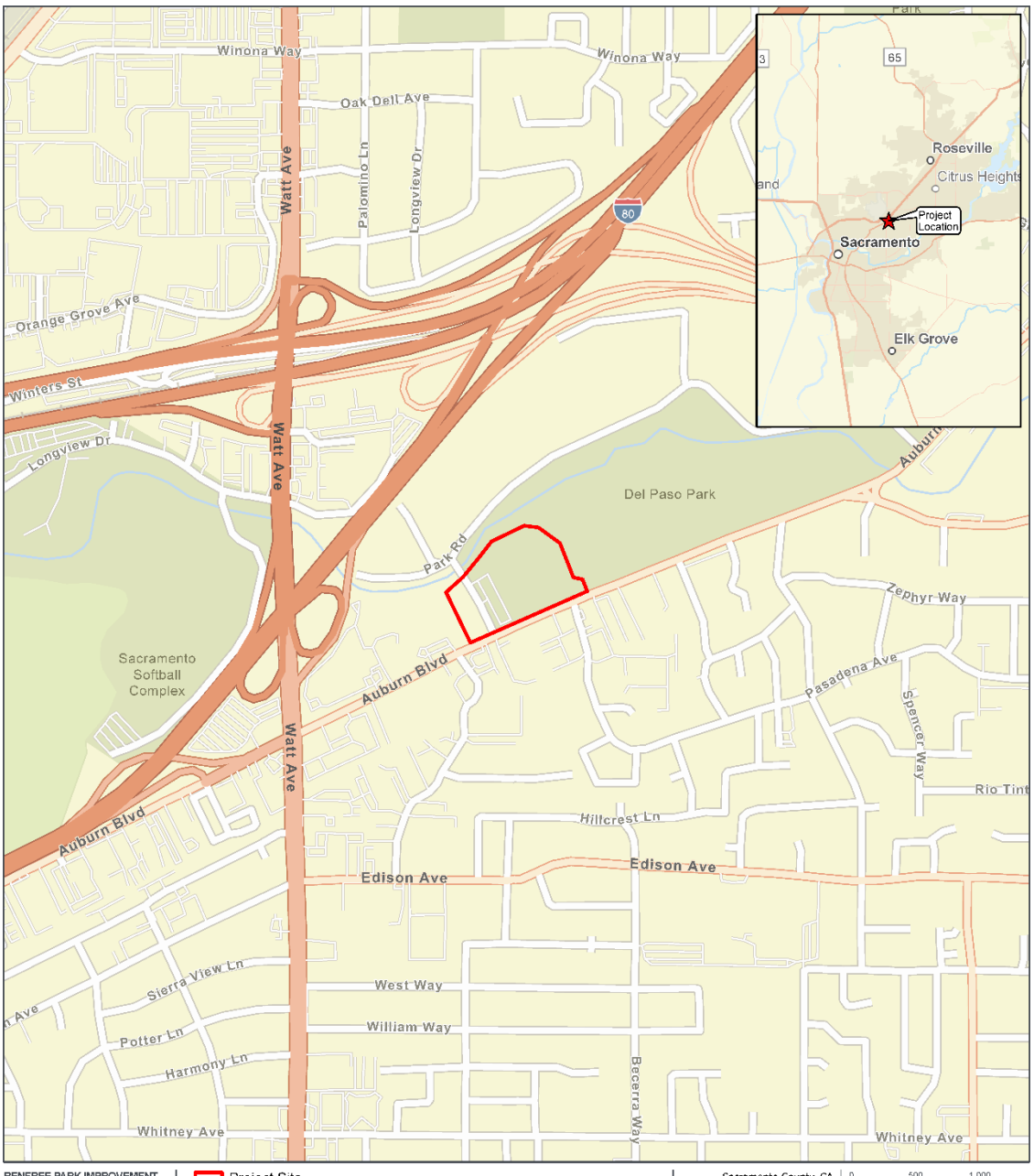
USGS 7.5-Minute Aerial Map of Sacramento County, California, depicting the project area.

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USGS 7.5-Minute Topographic Map of Sacramento County, California, depicting the project area.

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Regional project location map.

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January 27, 2023

Jesus Tarango, Chairperson
Wilton Rancheria
9728 Kent Street
Elk Grove, CA 95624

Re: Cultural Resources Technical Report for the Renfree Field Renovation Project, Sacramento County, California / SWCA Project No. 74845

Dear Chairperson Jesus Tarango:

SWCA Environmental Consultants (SWCA) was contracted by the City of Sacramento to prepare a cultural resources technical report in support of the Renfree Field Renovation Project (project) located in Sacramento, California. The project is subject to compliance with the California Environmental Quality Act (CEQA); the City of Sacramento will be the lead agency.

The proposed project is located within the larger Del Paso Regional Park in the northwest portion of the City of Sacramento. Del Paso Regional Park is an approximately 630-acre, multi-use park and includes Harry Renfree Field (Renfree Field). The park is bounded by Park Road to the north, the on and off ramps to Highway 244 to the east, Auburn Boulevard to the south, and Watt Avenue to the west.

The proposed project would replace Renfree Field with two baseball fields oriented opposite each other and develop a 210-foot-by-330-foot soccer field, which would be striped and overlap the outfields. The new orientation would be developed in the northeast portion of the project site. Associated infrastructure such as bleachers, bullpens, shaded dugouts, lighting, and connecting sidewalks would be replaced.

The northern portion of the existing western parking lot would be redesigned to include a full-sized asphalt basketball court and two pickleball courts with benches and fencing. The southern portion of the existing western parking lot would be redesigned to accommodate an approximately 36-space vehicle parking lot with two-way access via Bridge Road. A parking gate would be placed at the entry and a bio-swale would be sited to provide stormwater filtration prior to entering the storm drain.

The proposed on-site walkway and right-of-way improvements along Auburn Boulevard would extend from the east at the existing children's playground west across Bridge Road to the edge of the Owl Creek riparian area and would connect the new and existing park features. The proposed project would also include new lighting for the walkway, parking lot, sports courts, and baseball fields. Existing improvements such as the playground and the parking lot on the east side of the project site will remain.

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Any comments you may have regarding cultural resources in this area would be greatly appreciated. Please feel free to contact me with any concerns, or if you have additional questions about the project. You may reach me by phone at (925)399-9220 or email me at Christina.Alonso@swca.com.

Thank you for your time and assistance in this matter, I look forward to hearing from you.

Sincerely,

Christina Alonso
Senior Project Manager
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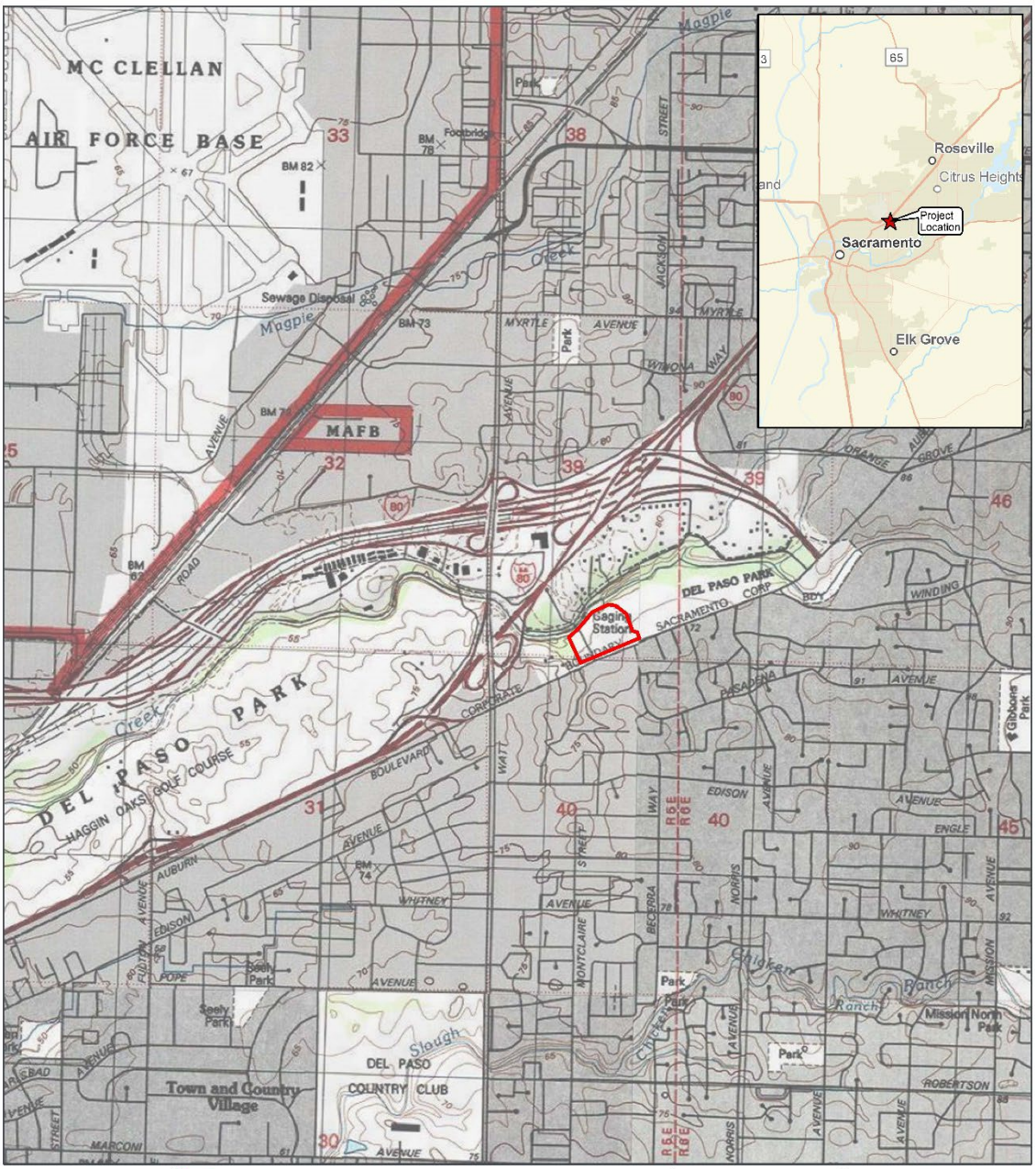
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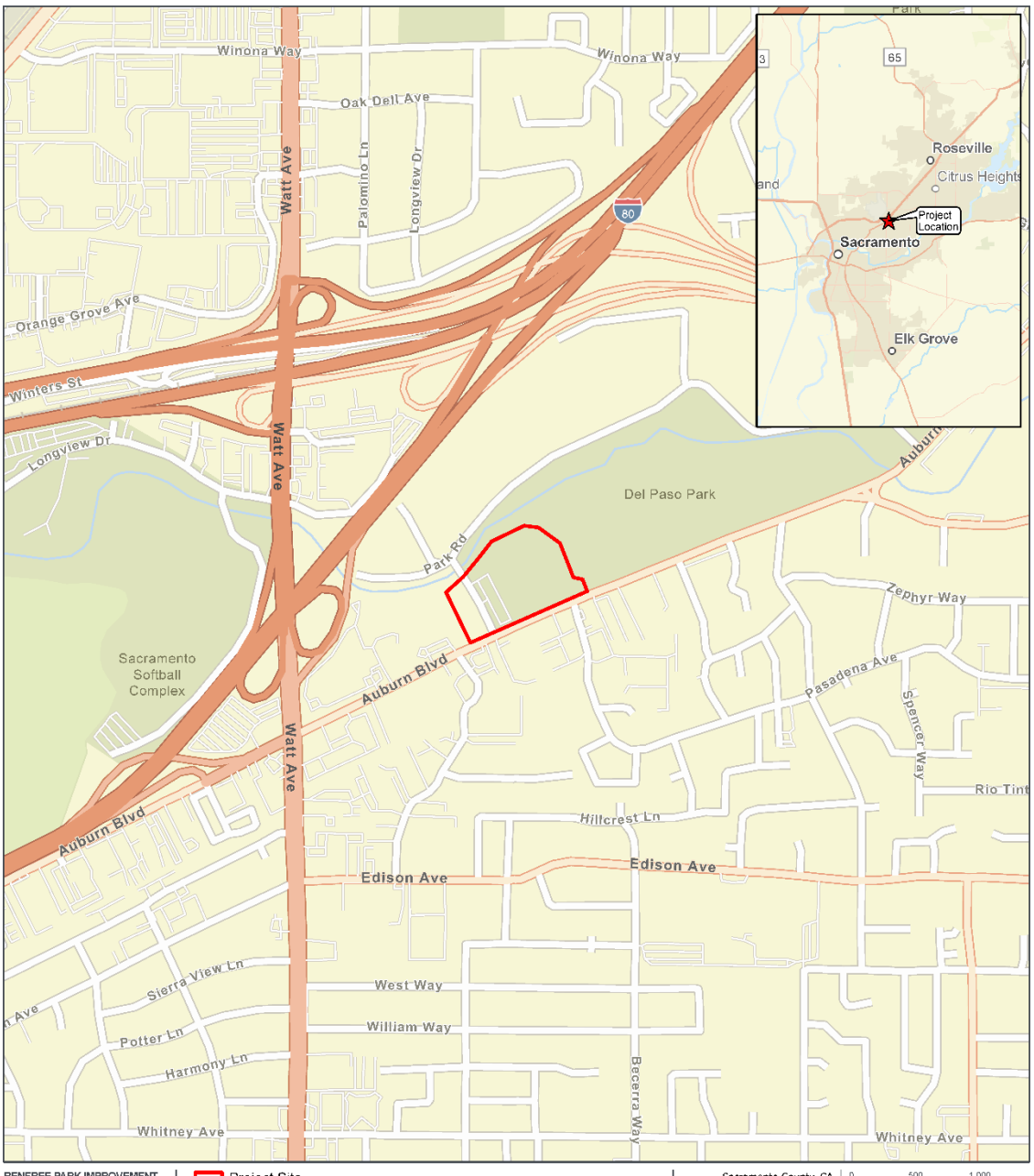
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Regional project location map.

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January 27, 2023

Pamela Cubbler, Treasurer
Colfax-Todds Valley Consolidated Tribe
P.O. Box 4884
Auburn, CA 95604

Re: Cultural Resources Technical Report for the Renfree Field Renovation Project, Sacramento County, California / SWCA Project No. 74845

Dear Treasurer Pamela Cubbler:

SWCA Environmental Consultants (SWCA) was contracted by the City of Sacramento to prepare a cultural resources technical report in support of the Renfree Field Renovation Project (project) located in Sacramento, California. The project is subject to compliance with the California Environmental Quality Act (CEQA); the City of Sacramento will be the lead agency.

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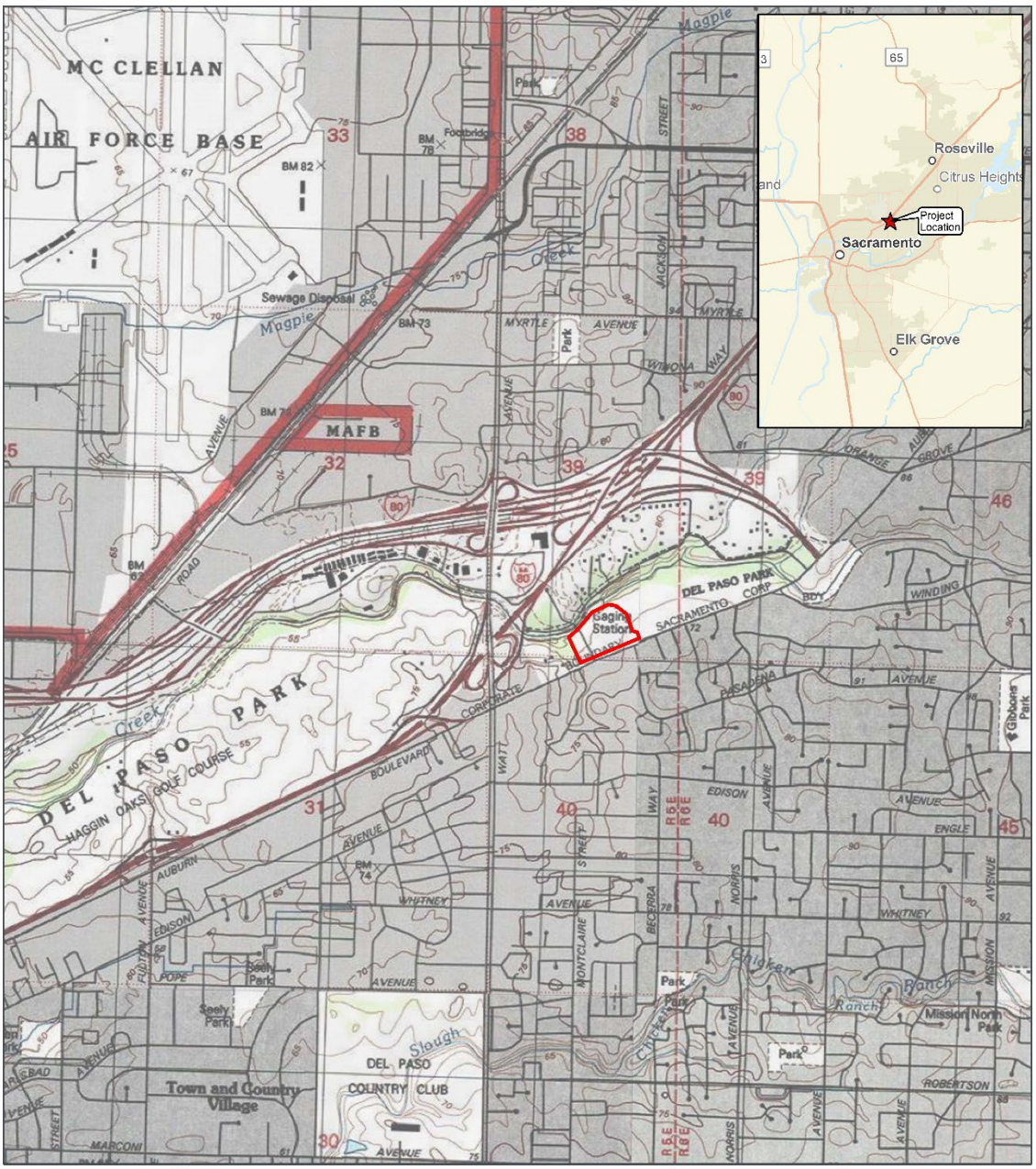
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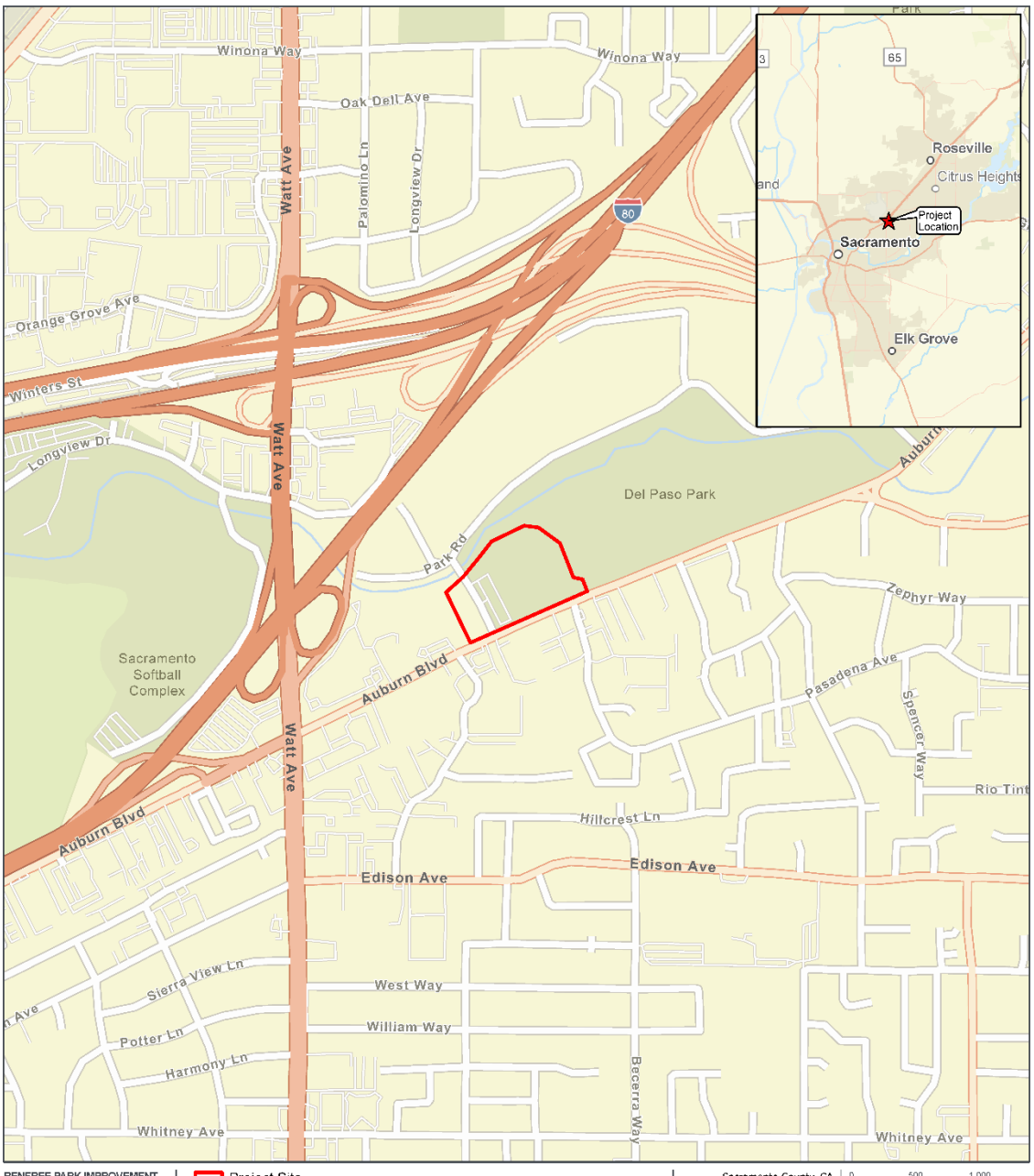
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January 27, 2023

Regina Cuellar, Chairperson
Shingle Spring Band of Miwok Indians
P.O. Box 1340
Single Springs, CA 95682

Re: Cultural Resources Technical Report for the Renfree Field Renovation Project, Sacramento County, California / SWCA Project No. 74845

Dear Chairperson Regina Cuellar:

SWCA Environmental Consultants (SWCA) was contracted by the City of Sacramento to prepare a cultural resources technical report in support of the Renfree Field Renovation Project (project) located in Sacramento, California. The project is subject to compliance with the California Environmental Quality Act (CEQA); the City of Sacramento will be the lead agency.

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Thank you for your time and assistance in this matter, I look forward to hearing from you.

Sincerely,



Christina Alonso
Senior Project Manager
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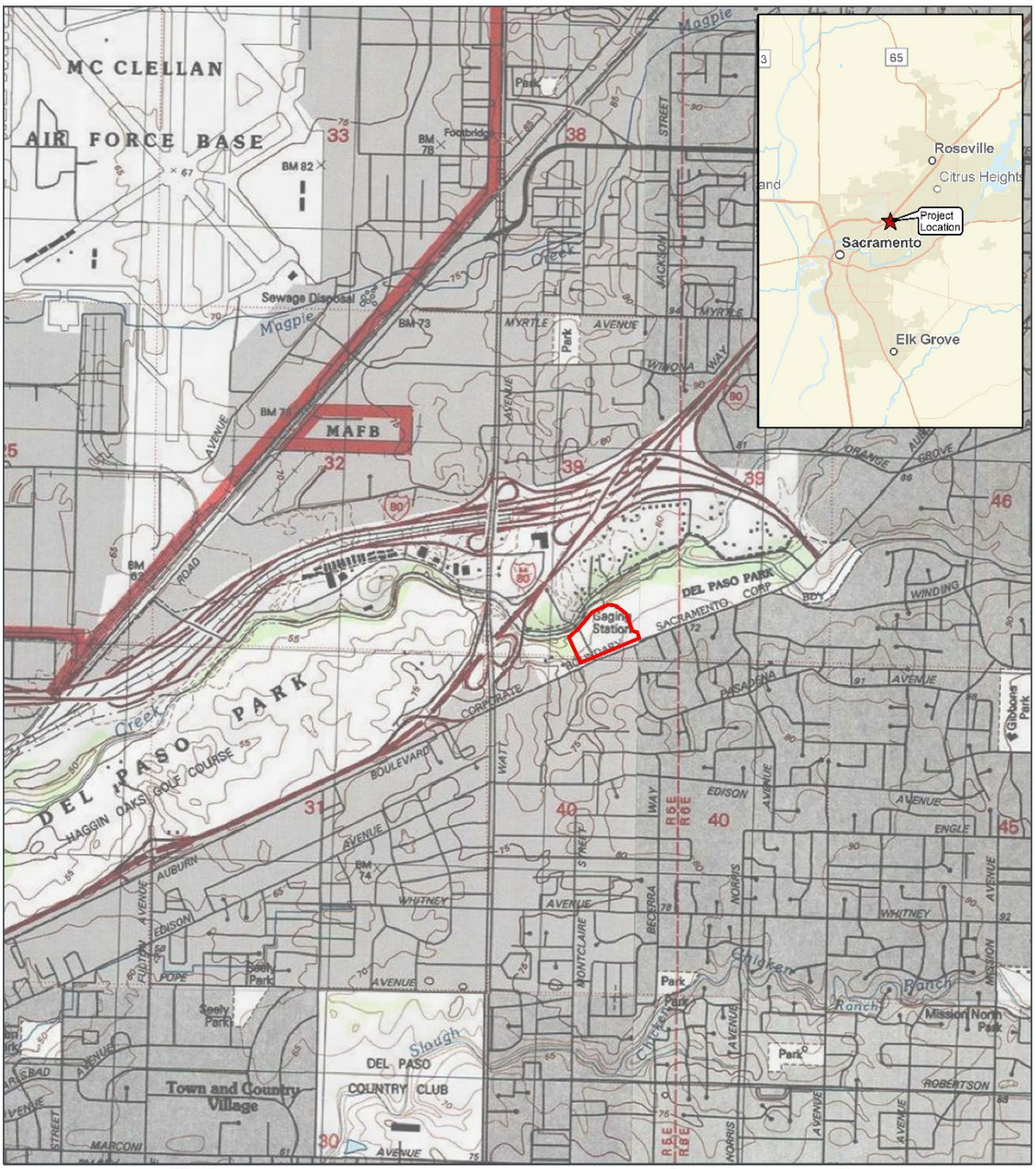
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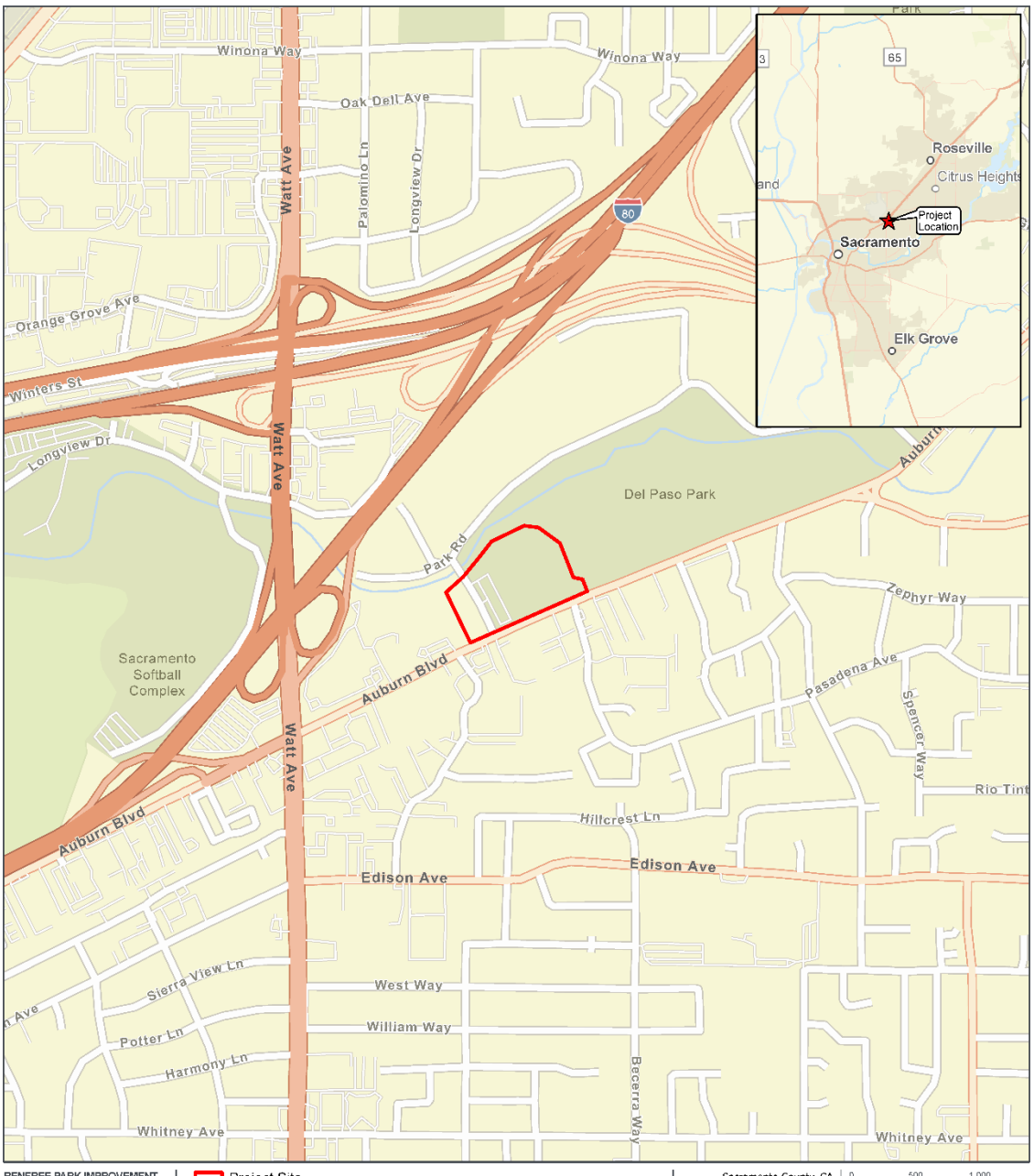
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January 26, 2023

Rhonda Morningstar Pope, Chairperson
Buena Vista Rancheria of Me-Wuk Indians
1418 20th Street, Suite 200
Sacramento, CA 95811

Re: Cultural Resources Technical Report for the Renfree Field Renovation Project, Sacramento County, California / SWCA Project No. 74845

Dear Chairperson Ronda Morningstar Pope:

SWCA Environmental Consultants (SWCA) was contracted by the City of Sacramento to prepare a cultural resources technical report in support of the Renfree Field Renovation Project (project) located in Sacramento, California. The project is subject to compliance with the California Environmental Quality Act (CEQA); the City of Sacramento will be the lead agency.

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Thank you for your time and assistance in this matter, I look forward to hearing from you.

Sincerely,



Christina Alonso
Senior Project Manager
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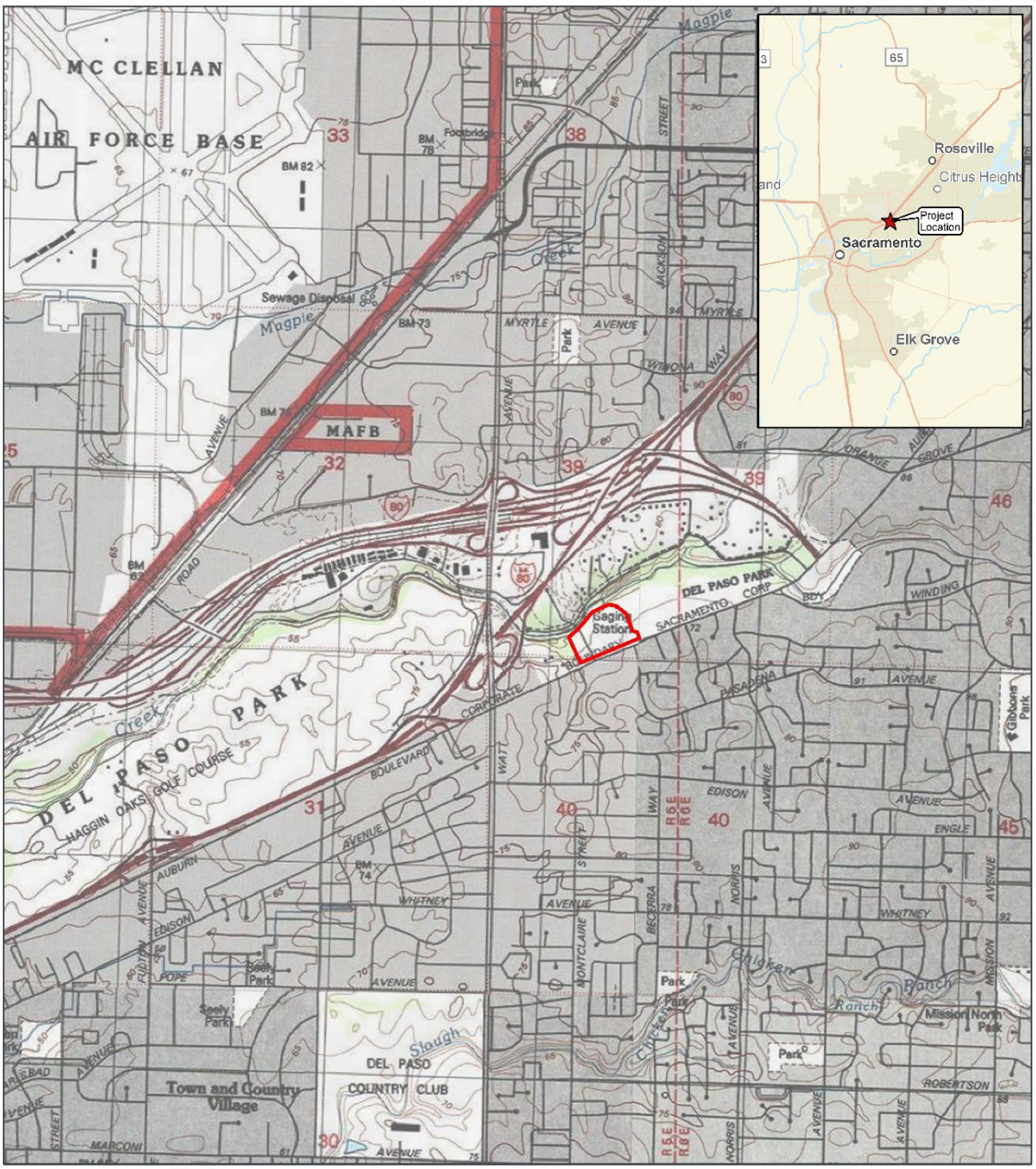
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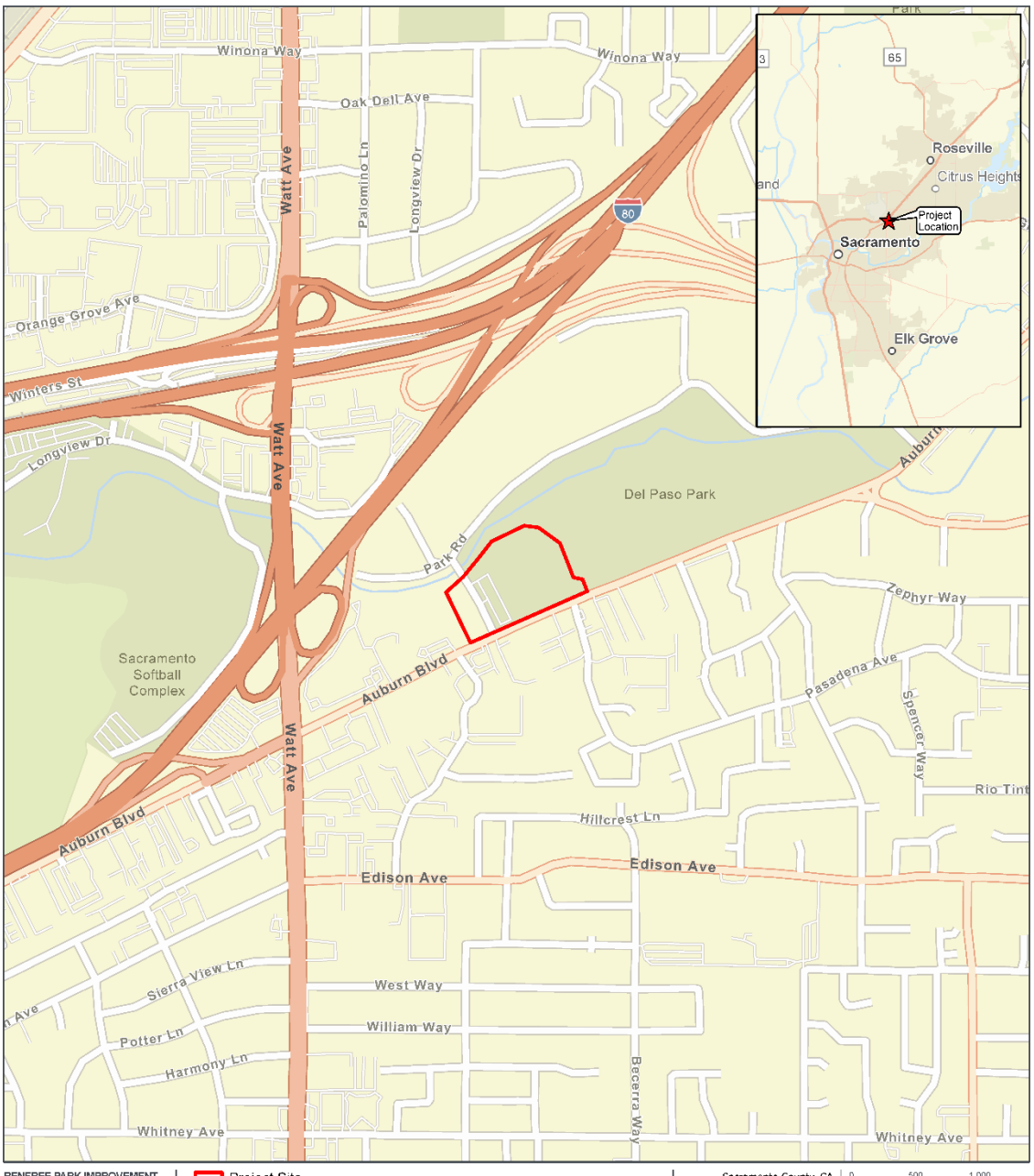
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January 27, 2023

Sara Dutschke, Chairperson
Ione Band of Miwok Indians
9252 Bush Street
Plymouth, CA 95669

Re: Cultural Resources Technical Report for the Renfree Field Renovation Project, Sacramento County, California / SWCA Project No. 74845

Dear Chairperson Sara Dutschke:

SWCA Environmental Consultants (SWCA) was contracted by the City of Sacramento to prepare a cultural resources technical report in support of the Renfree Field Renovation Project (project) located in Sacramento, California. The project is subject to compliance with the California Environmental Quality Act (CEQA); the City of Sacramento will be the lead agency.

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Christina Alonso
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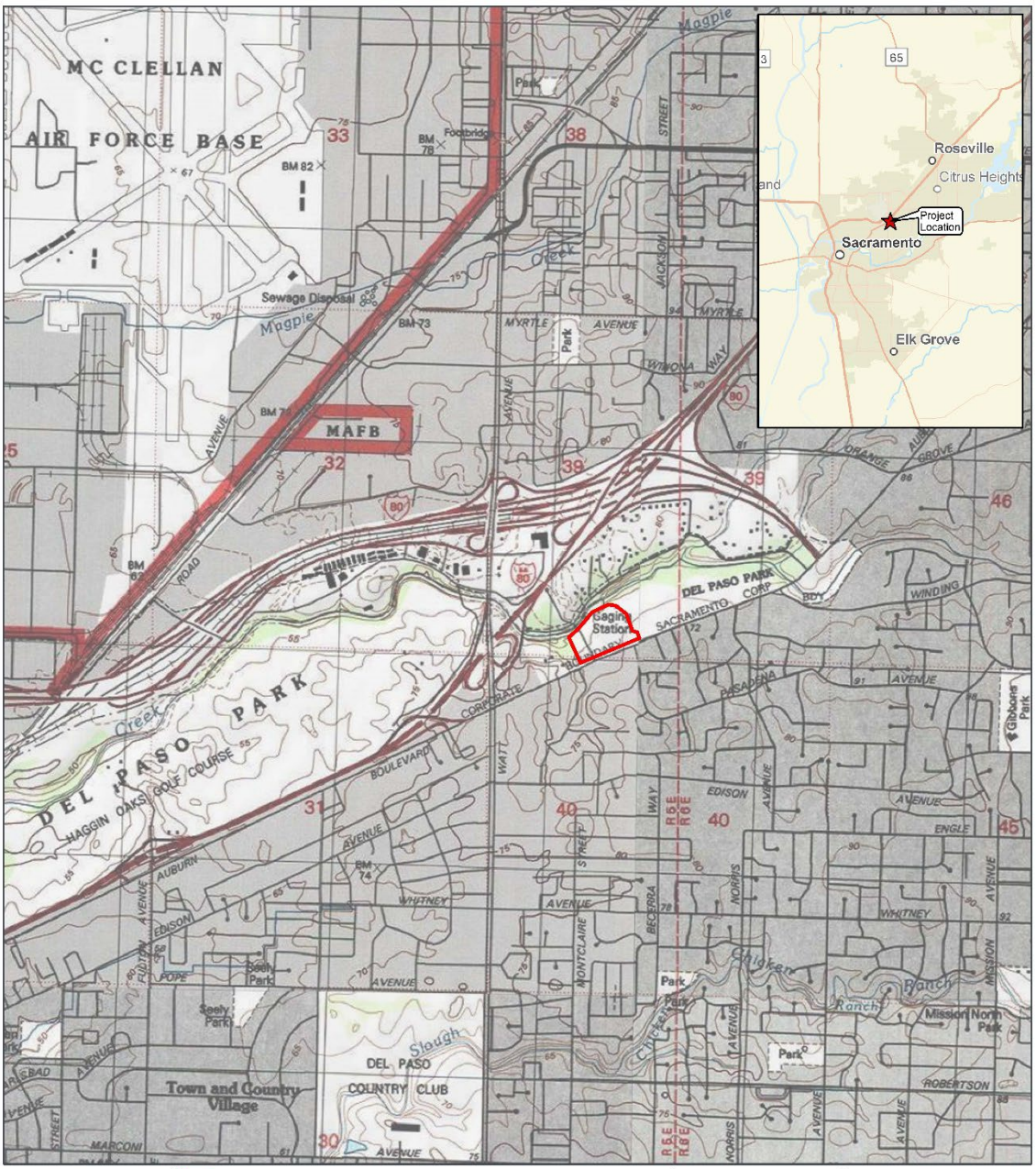
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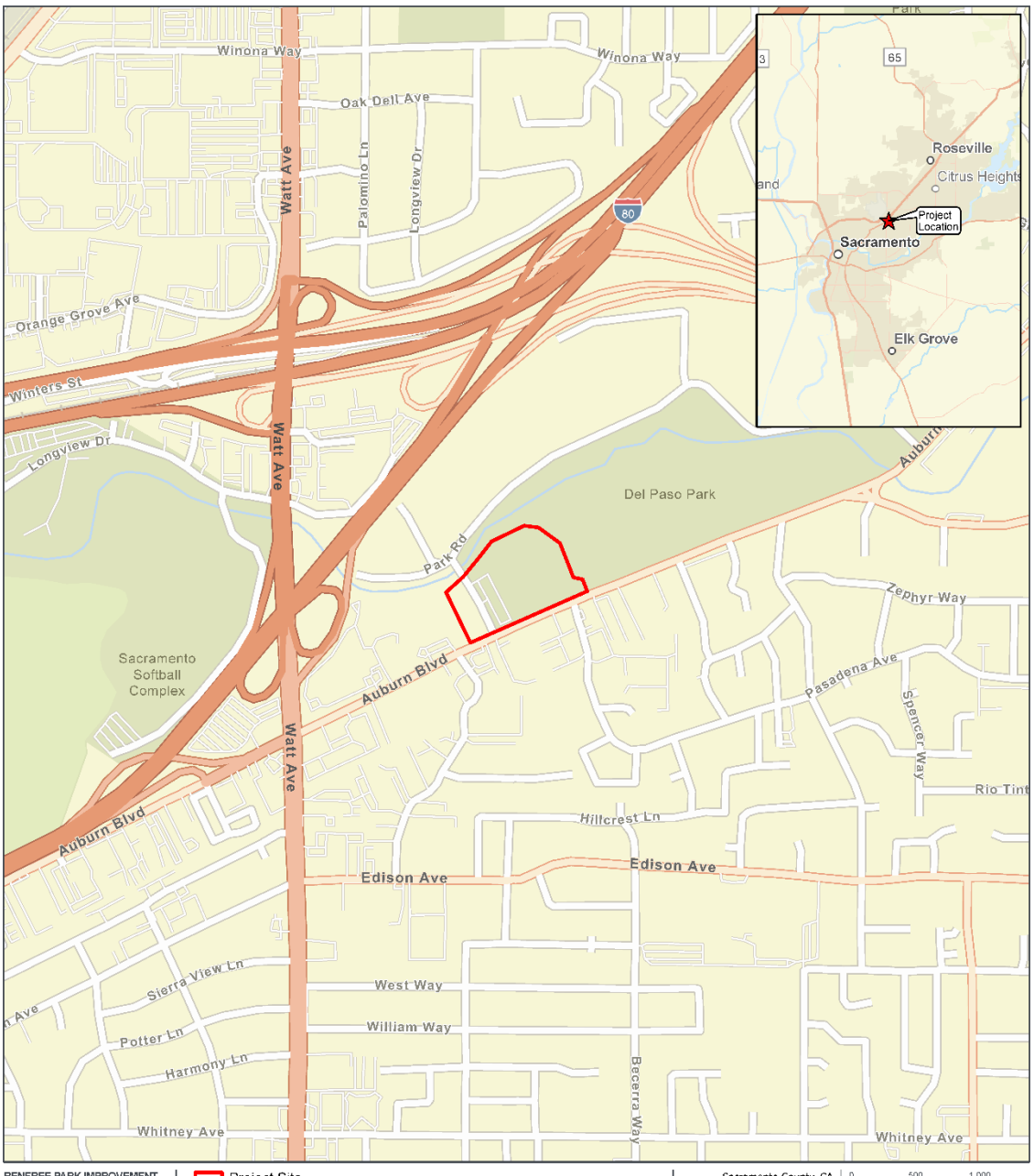
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Regional project location map.

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January 27, 2023

Steven Hutchason, THPO
Wilton Rancheria
9728 Kent Street
Elk Grove, CA 95624

Re: Cultural Resources Technical Report for the Renfree Field Renovation Project, Sacramento County, California / SWCA Project No. 74845

Dear Tribal Historic Preservation Officer Steven Hutchason:

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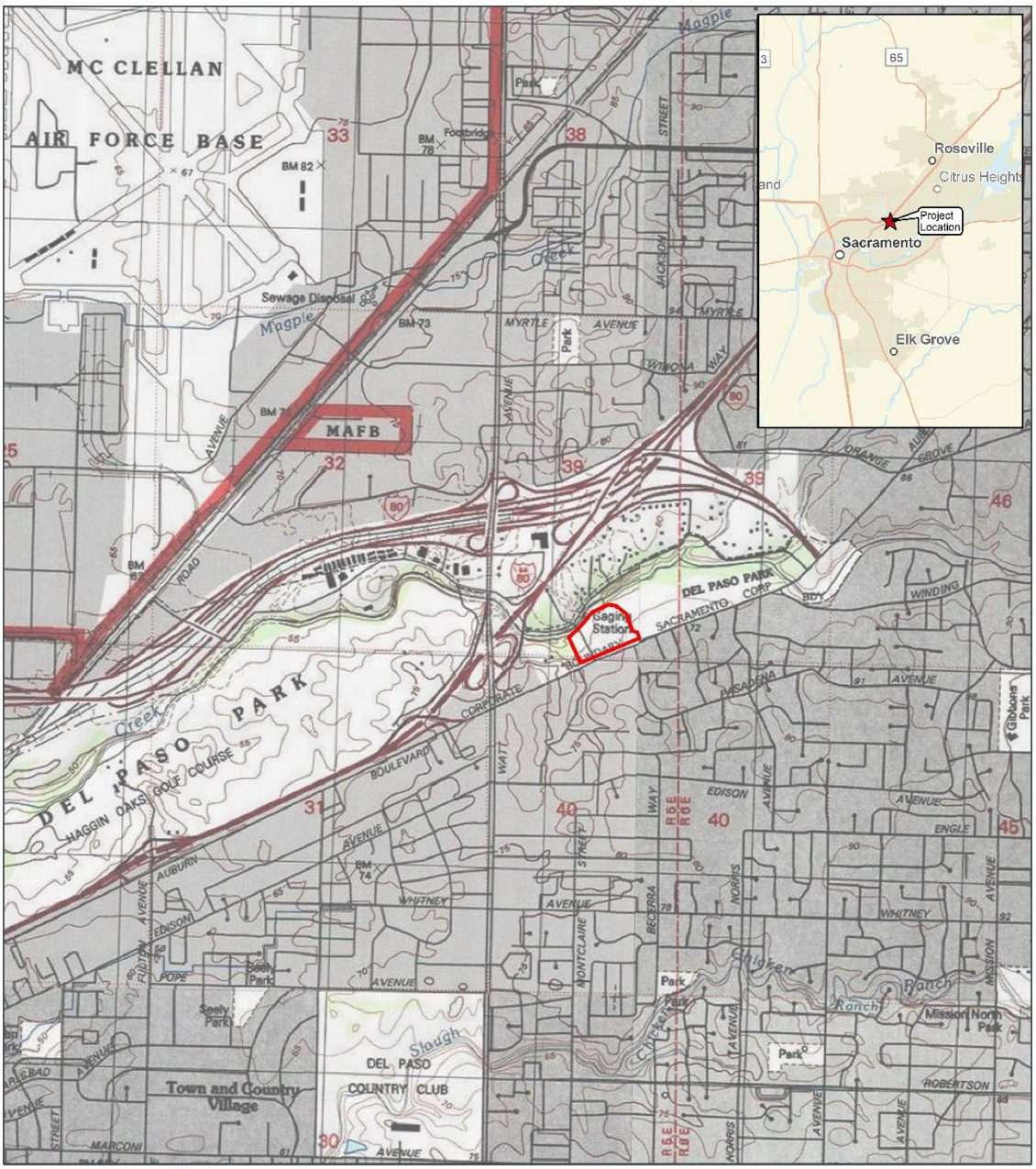
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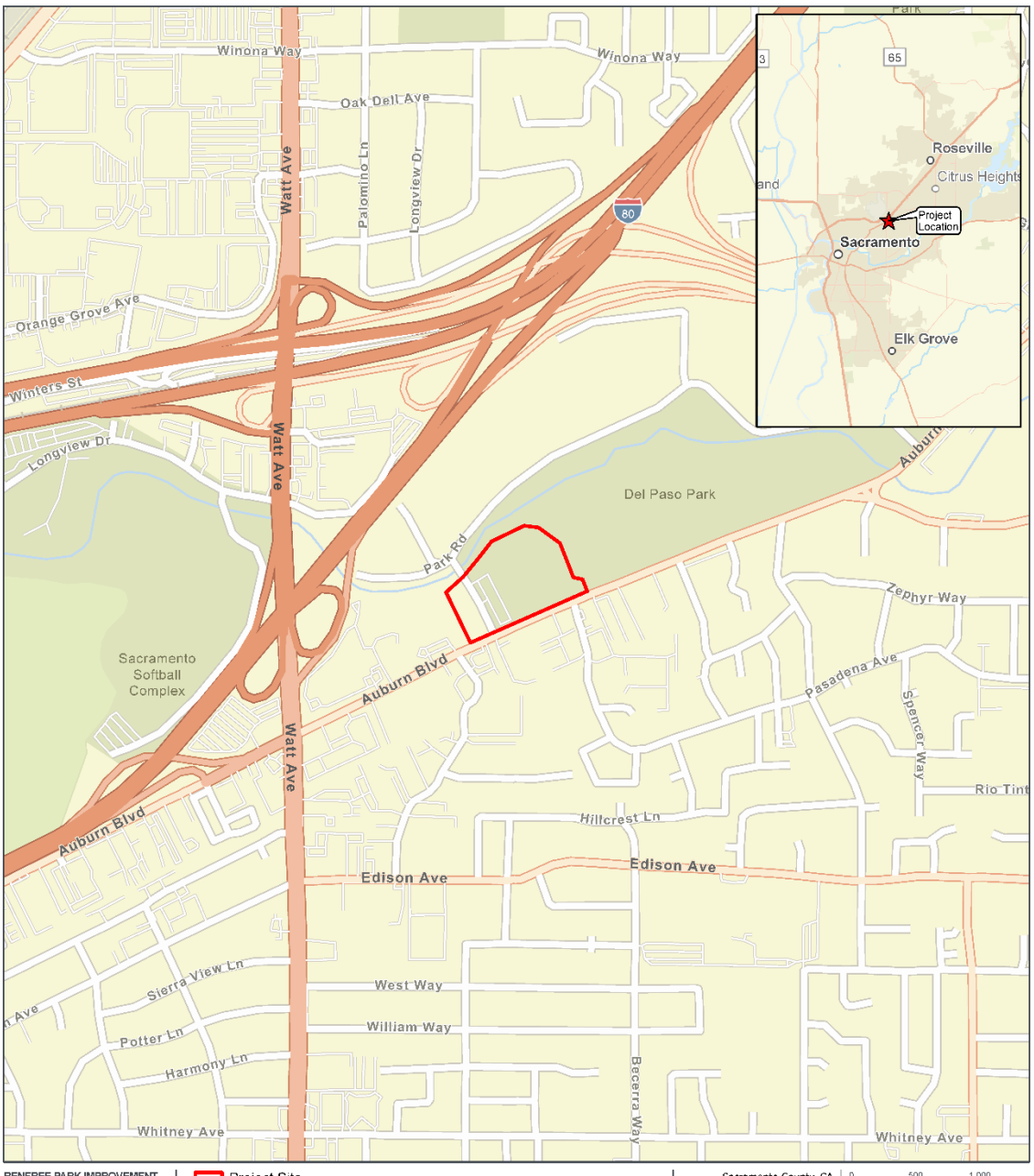
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Regional project location map.

APPENDIX D

SWCA Call Log for Native American Outreach Efforts

Tribal Representative and contact information	Tribal Affiliation	Outreach Email send date	Response received	USPS letter send date	Outreach Phone Call Date	Response received	Follow up call	Response
Buena Vista Rancheria of Me-Wuk Indians Rhonda Morningstar Pope, Chairperson 1418 20th Street, Suite 200 Sacramenot, CA, 95811 Phone: (916) 491-0011 Fax: (916) 491-0012 rhonda@buenavistatribe.com	Me-Wuk	1/27/2023			2/14/2023	Out of office; message left		
Ione Band of Miwok Indians Sara Dutschke, Chairperson Plymouth, CA, 95669 Phone: (209) 245-5800 consultation@ionemiwok.net	Miwok	1/28/2023			2/14/2023	Out of office; message left		
Shingle Springs Bank of Miwok Indians Regina Cuellar, Chairperson P.O. Box 1340 Shingle Springs, CA, 95682 Phone: (530) 387-4970 Fax: (530) 387-8067 rcuellar@ssband.org	Maidu, Miwok	1/29/2023			2/14/2023	No response; voicemail left.		
Tsi Akim Maidu Grayson Coney, Cultural Director P.O. Box 510 Browns Valley, CA, 95918 Phone: (530) 383-7234 tsi-akim-maidu@att.net	Maidu	1/30/2023			2/14/2023		Tribe recently received federal recognition, and are unable to professionally comment on project at this time. May be able to comment on projects in 6 months or so. Chairperson Grayson Coney would be considered an MLD for the area. He stated that there would be prehistoric villages within 1.5 miles of Arcade Creek. If crews dig below three feet they should keep an eye on soil changes that might indicate buried material. This portion of teh valley is a rich fossil area.	
United Auburn Indian Community of the Auburn Rancheria Gene Whitehouse, Chairperson 10720 Indian Hill Road Auburn, CA, 95603 Phone: (530) 883-2390 Fax: (530) 883-2380 bguth@auburnrancheria.com	Maidu, Miwok	1/31/2023			2/14/2023		Out of office; voicemail left.	
Wilton Rancheria Dahlton Brown, Director of Administration 9728 Kent Street Elk Grove, CA, 95624 Phone: (916) 683-6000 dbrown@wiltonrancheria-nsn.gov	Miwok	2/1/2023			2/14/2023		No response; voicemail left.	
Wilton Rancheria Jesus Tarango, Chairperson 9728 Kent Street Elk Grove, CA, 95624 Phone: (916) 683-6000 Fax: (916) 683-6015 jtarango@wiltonrancheria-nsn.gov	Miwok	2/2/2023			2/14/2023		No response; voicemail left.	
Wilton Rancheria Steven Hutchason, THPO 9728 Kent Street Elk Grove, CA, 95624 Phone: (916) 683-6000 Fax: (916) 683-6015 shutchason@wiltonrancheria-nsn.gov	Miwok	2/3/2023			2/14/2023		No response; voicemail left.	
Colfax-Todds Valley Consildated Tribe Pamela Cubbler, Treasurer P.O. Box 4884 Auburn, CA, 95604 Phone: (530) 320-3943 pcubbler@colfaxrancheria.com	Maidu, Miwok	2/4/2023			2/14/2023		No response; voicemail left.	
Colfax-Todds Valley Consildated Tribe Clyde Prout, Chairperson P.O. Box 4884 Auburn, CA, 95604 Phone: (916) 577-3558 miwokmaidu@yahoo.com	Maidu, Miwok	2/5/2023			2/14/2023		No response; voicemail left.	

APPENDIX E

California DPR 523 Series Forms for Del Paso Regional Park and Renfree Field Prepared by SWCA

P-34-004267 was originally recorded on August 26, 2010, by Michael Dice of Michael Brandman Associates. The site is Del Paso Regional Park (Del Paso Park), which encompasses 83 developed acres and 790 acres of open space or golf courses, including picnic areas, walking and equestrian trails, play areas, restroom facilities, a softball complex, and Harry Renfree Field. At that time, Dice only recorded the northeastern portion of Del Paso Park near Bridge Street and Park Road. Because no historic elements were located in this area that dated to the period of significance (1900–1920), Dice suggested that the site was not eligible for the National Register of Historic Places.

The site was revisited on December 7, 2022, by SWCA staff archaeologist Brandon Foster as part of a pedestrian survey. The portion of P-34-004267 investigated during this survey is the same portion of the park recorded by Dice in 2010. Although not described in the 2010 site record, Harry Renfree Field encompasses much of this portion of the park. Harry Renfree Field was named after the Sacramento City Recreation and Parks Department employee Harry Renfree, and it was opened in May 1968 (*The Sacramento Bee* 10 May 1968:64). Harry Renfree Field is located east of Bridge Road, southeast of Arcade Creek, and northwest of Auburn Boulevard. It is bounded on the northwest, northeast, and southeast by recreation trails. A large parking lot abuts its southwest side. Renfree Field Playground and a smaller parking lot are located on its southeast side. The remainder of this portion of P-34-004267 is characterized by open space bounded by an oak woodland.

During the December 2022 pedestrian survey, no historic elements were identified. As well, no apparent impacts to the overall integrity of the site were noted. Documentation of Renfree Field as an individual element was completed by qualified SWCA architectural historians through separate DPR 523 Forms



Photo 1: Harry Renfree Field sign; Photo oriented northeast.



Photo 2: Interior of Harry Renfree Field taken from the catcher's box. Photo oriented northeast.



Photo 3: Overview of a recreational trail located north of Harry Renfree Field. Photo oriented southwest.



Photo 4: Overview of open space and parking lot southwest of Harry Renfree Field. Photo oriented east-northeast.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 6Z
Other Listings
Review Code Reviewer Date

*Resource Name or #: Harry Renfree Field

P1. Other Identifier:

***P2. Location**: ☐ Not for Publication ☒ Unrestricted *a. County Sacramento and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

b. USGS 7.5' Quad Rio Linda Date 2022

T 9N; R 6E Sec 32 B.M.

c. Address: 3565 Auburn Boulevard City Sacramento Zip 95819

d. UTM: (Give more than one for large and/or linear resources) 641274mE/ 4278106mN;

e. Other Locational Data: Assessor Parcel Number 240-0342-011

*P3a. Description: (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

Harry Renfree Field (Renfree Field) is a baseball diamond and recreational facility located within the northeast section of Del Paso Regional Park (Del Paso Park), roughly bounded by Park Road to the north and east, Auburn Boulevard to the south, and Watt Avenue to the west. Specifically, the property is centered along Renfree Field, which is a recreational baseball diamond and playing field with support facilities that is accessed by Bridge Road Bridge Road is a simple roadway that extends north–south west of the property. It is accessed from Auburn Boulevard to the south and Park Road to the north, the latter of which has a bridge crossing over Arcade Creek, which largely parallels Park Road. (**Photograph 1**; see Continuation Sheet)

*P3b.Resource Attributes: (List attributes and codes) HP31 – Urban Open Space, HP42 – Stadium/sports arena, HP39 - Other

*P4.Resources Present: ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo: (view, date, accession #)
Photograph 1: Renfree Field from Auburn Boulevard, view northeast, December 7, 2022.

*P6. Date Constructed/Age and Source:
☒ Historic ☐ Prehistoric ☐ Both
1967-1968, *The Sacramento Bee*

*P7. Owner and Address:
City of Sacramento

*P8. Recorded by: (Name, affiliation, and address)
Sayre Borden, Dan Herrick
SWCA Environmental Consulting
6355 Riverside Blvd, Suite C
Sacramento, CA 95831

*P9. Date Recorded: December 7, 2022.

*P10. Survey Type: (Describe) Intensive

*P11. Report Citation: (Cite survey report and other sources or enter "none.") Cultural Resources Technical Report for the Renfree Field Improvements Project, Sacramento, Sacramento County, California - Draft (February 2023) *Attachments: ☐NONE ☒Location Map ☒Continuation Sheet ☒Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #
HRI#

BUILDING, STRUCTURE, AND OBJECT RECORD

*Resource Name or # (Assigned by recorder) Harry Renfree Field *NRHP Status Code 6Z

B1. Historic Name: Harry Renfree Field
B2. Common Name: Renfree Field
B3. Original Use: Recreation B4. Present Use: Recreation
*B5. Architectural Style: Vernacular
*B6. Construction History: Constructed 1967-1968

*B7. Moved? ☒No ☐Yes ☐Unknown Date: _____ Original Location: _____
*B8. Related Features: **none**
B9a. Architect: City of Sacramento b. Builder: Unknown
*B10. Significance: Theme n/a Area n/a
Period of Significance n/a Property Type n/a Applicable Criteria n/a (Discuss importance in terms of historical or architectural

This intensive survey and evaluation find that Renfree Field does not appear to meet the criteria for listing in the California Register of Historical Resources (CRHR) or the Sacramento Register of Historic Cultural Resources (Sacramento Register) because of a lack of historical significance The property has been evaluated in accordance with Section 15064.5(a)(2)-(3) of the California Environmental Quality Act Guidelines (CEQA), using the criteria outlined in Section 5024.1 of the California Public Resources Code and does not appear to be a historical resource for the purposes of CEQA o(see continuation sheet).

B11. Additional Resource Attributes: (List attributes and codes) _____

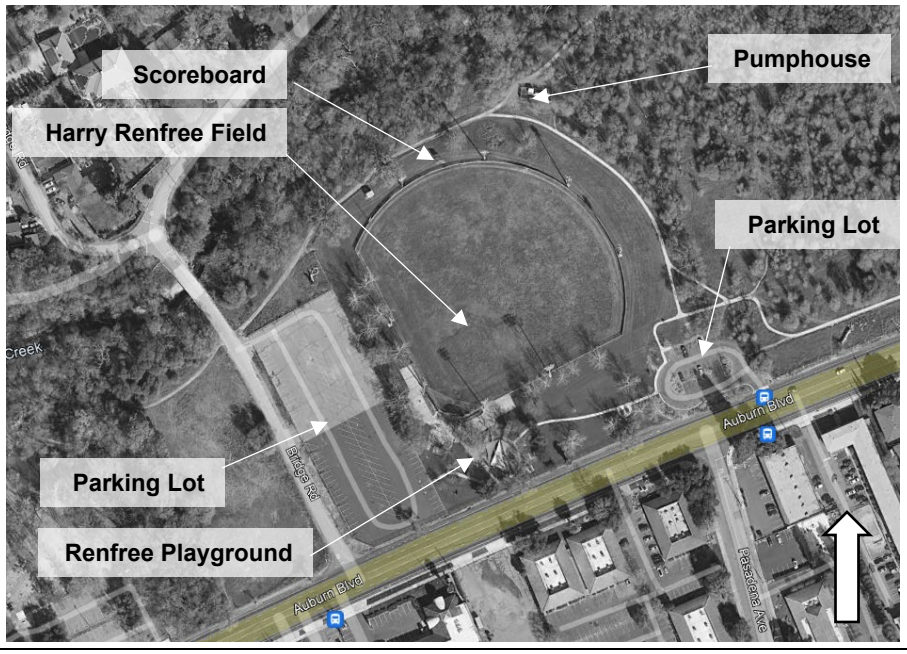
*B12. References:
See Continuation Sheet.

B13. Remarks:

*B14. Evaluator: Sayre Borden and Daniel Herrick, SWCA Environmental Consultants

*Date of Evaluation: February 2023

This space reserved for official comments.



P3a. Description (Continued):

A large rectangular surface parking lot is immediately east Bridge Road and provides facility access to Renfree Field (Figure 1). There are two metal gates at the center and northwest corner parking lot along Bridge Road, and a chain-link fence enclosing the parking lot's north, south, and west sides. The east side of the parking lot is open and provided access to Renfree Field, a typical recreational baseball diamond that is oriented northeast from home plate, which is near the southeast corner of the parking lot (Figure 2). The backstop of the diamond consists of wood beams stacked horizontally behind the home plate and attached to a tall chain-link fence that extends down both foul lines (Figure 3). There are six metal outfield lights across the grass line behind the field (Figure 4). Located on the north and east corner of the diamond are two outfield poles. Behind the backstop on the west and south side are two benches meant for a home and away teams. A chain-link fence encloses the visitor's dugout bench on the west side. There is a concrete pad in a U-shape behind the diamond that connects the benches (Figure 5). Directly north of the field is an elevated scoreboard with metal beams supporting the square metal board (Figure 6 through Figure 8). The baseball field includes rubber home, 1st, 2nd, and 3rd bases. Two circular metal water fountains are located on the west and south sides by the team benches, and multiple signs are attached to the chain-link fence indicating team dugouts and field usage.



Figure 1. Surface parking lot with Renfree Field, view northeast.



Figure 2. Baseball diamond at Renfree Field with backstop at center, view northeast.



Figure 3. Renfree Field home plate and backstop, view southwest.



Figure 4. Typical chain-link fencing, lighting, and foul ball post at Renfree Field's left field, view north.



Figure 5. Concrete pad and dugout bench at southwest corner of Renfree Field, view south.



Figure 6. Renfree Field's center field with outfield lighting and scoreboard, view northeast.



Figure 7. Renfree Field scoreboard located in the outfield, view northeast.



Figure 8. Overview of the Renfree Field outfield, view east.

To the west of the elevated scoreboard is a utility shed that features a low-pitched roof with a slight eave overhang and open (Figure 9). The shed sits on a low-to-ground concrete foundation. Its walls are vertical wood boards laid in a joint pattern. On the west-facing façade is a metal door with wood casing and a small metal vent. On the north side of the shed, there is a concrete slab.

South of the baseball field is a playground encased by a concrete sidewalk that extends from the western parking lot (Figure 10). The playground contains multiple slides, climbing bars, and other activities for children. Two cloth awnings supported by metal beams shade the playground. Wood bark covers the surface of the playground. The concrete sidewalk continues east past a set of two concrete tables to the south to another set of tables with a concrete foundation (Figure 11). The sidewalk ends past the tables at an oval-shaped parking lot connecting to Auburn Boulevard. There are multiple accessible parking signs and other park signage. A swinging metal gate is at the entrance to the parking lot from Auburn Boulevard (Figure 12).

Beyond the outfield in the northeast corner of the park is a well that features a plastic aboveground storage water tank, elevated by concrete blocks, and an adjoining pumphouse shed clad with corrugated metal panels (Figure 13). The pumphouse shed sits on a concrete slab foundation and features a flat roof comprised of the same metal as the walls. Multiple pipes extend from pumphouse into the ground, and a chain-link fence surrounds the facility.



Figure 9. Utility Shed located north of Renfree Field, view southeast.



Figure 10. Renfree Field playground located south of Renfree Field, view east.



Figure 11. Pathway between the Renfree Field Playground (background) and the southeast adjacent surface parking lot, view west.



Figure 12. Entrance to the Renfree Field Playground surface parking lot, view north from Auburn Boulevard.



Figure 13. Pumphouse and aboveground storage tank at the northeast corner of the property, view east.

B10. Significance (Continued):

Historic Context

Development of Sacramento

Before European colonization, the Nisenan and Plains Miwok Indians called the Sacramento area home. Spanish colonization, which primarily occurred along the southern and central coast, did not instantly affect the native Indians of the Central Valley. The first recorded European expedition into the interior of California occurred in 1808 by Gabriel Moraga. Moraga surveyed the region to find suitable locations for a future mission and named the valley and river Sacramento, after the Spanish word for Sacrament. The Spanish never colonized the area but awarded rancho land grants to loyal citizens and soldiers to populate the region. This practice continued after Mexican Independence in 1821, and the influx of American settlers to the valley altered the landscape. The area saw multiple ranchos and land grants to Mexicans, Americans, and Europeans, like John Sutter, who developed a trading post between the American and Sacramento Rivers (Page & Turnbull 2019b). Sutter's trading post, known as New Helvetia after Sutter's homeland in present-day Switzerland, served as the foundation for early Sacramento.

Almost immediately after the annexation of California by the United States in 1848, gold was discovered at a lumber mill owned by Sutter along the American River near present-day Coloma in El Dorado County. This discovery spurred the California Gold Rush, which led to the rapid transformation of California as a sparsely populated western frontier to a center of industry, commerce, and trade. As the gateway to the Sierra Nevada and the goldfields of the foothills, Sacramento quickly became a transportation hub and nexus of Gold Rush economic activity. In December 1848, John Sutter Jr. and Sam Brannan hired topographical engineer Captain William H. Warner and Lieutenant William Sherman to survey and layout "Sacramento City." Named after the river and meant to differentiate John Sutter Jr.'s pursuits from that of his father, John Sutter Sr. The original city grid consisted of 26 lettered (A to Z, today C to Broadway) and 31 numbered (1st to 31st, today Front to Alhambra) streets. Sacramento's city grid was built directly at the base of the American River flood basin, where centuries of Sierra Nevada snowmelt created temporary lakes each spring, well into the 1840s. Sacramento's original townsite was laid out as a 5-square-mile area, with each street 80 feet wide (except for Front and M), and each block 320 to 340 feet long. Lots comprised each block and many blocks were divided by 20-foot-wide alleys (Figure 14) (Owens 2013:32–33, 42–43; Hallam 2013:63–64).

Although Sacramento grew through 1850, the population was not stable. With the excitement of new Gold Rush diggings and news of new claims, Sacramento's population remained largely transient aside from the core of merchants and hotel owners. California's population was undoubtedly increasing, but the population of Sacramento grew sluggishly due in part to the transient nature of the early Gold Rush miners, flooding, and fires that destroyed buildings. In September 1849, a destructive fire swept through the business district, destroying several blocks of canvas tent and wood frame structures, followed by a major flood in January 1850. In 1852 fire again swept through the business district, destroying over 55 blocks of the city. Original buildings in Sacramento were wood frame and canvas, but as fires and floods became a way of life, citizens began to erect buildings of brick and raised the street level, leaving the original street level below grade (Owens 2013:48–50).

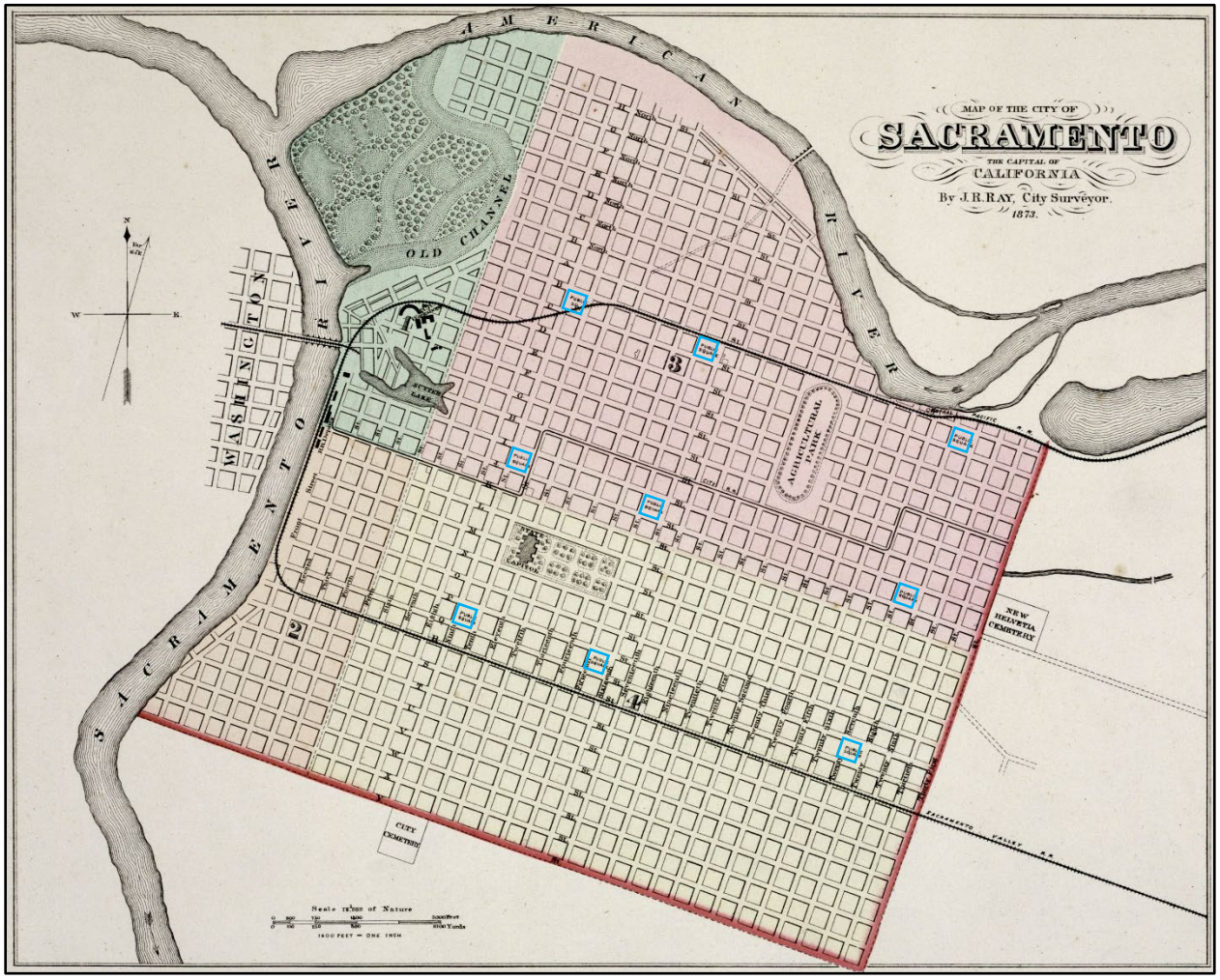


Figure 14. 1874 surveyor's map of the city of Sacramento, California. The public squares associated with the original 1849 plan for the city have been outlined in blue. Source: California State Railroad Museum and Archives.

In 1854 Sacramento became the capital of California. This rise in prominence, coupled with the city's strategic location and early commercial importance in the development of California, resulted in Sacramento becoming the western terminus for the first transcontinental railroad, which began construction in 1863. The Central Pacific Railroad Company, which later became the Southern Pacific Railroad and then Union Pacific, was founded by a group of merchants and businessman known as "the Big Four," who were based in Sacramento, or had strong ties to the region. This development solidified Sacramento as a center for transportation in California, providing immediate links to San Francisco and the growing agricultural hinterlands of the central valleys with the rest of the United States (Owens 2013:48–50).

Through the 1870s and into the 1900s, growth continued eastward away from the original core along the embarcadero and K Street. The patterns of growth were often reflective of the types of amenities in given neighborhoods including schools and parks. Utilizing the knowledge of parks within urban spaces Sacramento's grid was developed utilizing

these ideals. John Sutter Jr., the primary driving force for the development of Sacramento, had the city laid in a grid pattern with spaces specifically for city plazas (see Figure 6). These plaza parks provided residents with publicly accessible spaces within an urban core.

As growth continued, pushed by the development of streetcars which connected new neighborhoods with the urban commercial core, the main city grid began to fill. By the 1890s, speculators had begun to eye land outside of the main grid for development. This led to development of Sacramento's first residential suburban tracts of Oak Park, Elmhurst, and East Sacramento (Kremer 2012). The trend of suburban expansion and growth of the city towards the east, south, and eventually north would continue throughout the remainder of the twentieth century, particularly during the population boom years following World War II (WWII).

Del Paso and North Sacramento

Del Paso is a community within the northern portion of the city of Sacramento. Located on the north side of the American River, the area was originally part of Mexican-era land grant of Rancho del Paso. Awarded to Eliab Grimes on December 20, 1844, Rancho del Paso was a 44,000-acre property that extended along the north bank of the American River and covered an area consistent with the northern areas of the city of Sacramento and the unincorporated communities of Del Paso Heights, Arden Arcade, Rio Linda, and others in present-day northwest Sacramento County (Page & Turnbull 2019a; American Institute of Architects [AIA] 2014); Eliab partnered with John Sinclair to harvest wheat and cattle on the land. The ownership of the ranch changed in 1848 when Eliab died and passed the rancho to his nephew Hiram, and in 1849, John Sinclair sold his share of the rancho back to Hiram, who in turn sold the land to Samuel Norris, a San Francisco trader. Throughout the 1850s, Norris remained embattled with Eliab's descendants, who contested Norris' rightful claim to the rancho. In 1860 the U.S. Supreme Court sided with Norris, though the trials placed him in deep debt with his lawyers, forcing him to sell the rancho to James Ben Ali Haggin and Lloyd Tevis, forming the Haggin-Tevis Partnership. This partnership consisted of two brothers-in-law from San Francisco, who utilized the land for pasturing sheep, cattle, and horses while growing crops of grain, hay, and hops along the American River. The partnership also bred racehorses; by 1886 the rancho had over 100 horses in training.

In 1889 the partnership formed the Rancho Del Paso Land Company, which intended to subdivide and sell the entire rancho to a single buyer. After proving unsuccessful, the company ultimately sold the land in 1905 to the Sacramento Valley Colonization Company (SVCC), which was a collection of 10 local investors who aimed to subdivide and sell the land for development (Page & Turnbull 2019a; AIA 2014). The subdivisions created by the SVCC formed the foundation for the area as it's known today, adding names like Rio Linda, Del Paso Heights, and North Highlands to the map. While many of these areas remained overwhelmingly agricultural in the initial decades of the twentieth century, a concentrated community directly north of the city of Sacramento began to grow. Known as North Sacramento, the growing townsite saw an increase in commercial and residential development after the initial subdivision by the SVCC. The growth of the community was spurred further in 1915 with the opening of the Sacramento Northern, which was a streetcar line that connected the North Sacramento area with the central core of south-adjacent Sacramento. In 1924, North Sacramento officially incorporated as its own municipality (Figure 15) (North Sacramento Chamber of Commerce 2022).

Despite its growth, the North Sacramento community remained relatively small with a modest commercial district and suburban homes, all of which was surrounded by agricultural lands. The outlying areas beyond the city's boundaries, known as Del Paso Heights, was predominantly ranchland, and much of the initial development was uneven, with irregularly shaped commercial and industrial areas, long and dense residential blocks, and inconsistent infostructure development. This urban development represents much of the regions surrounding Del Paso, as much of the land outside downtown Sacramento was used for agricultural purposes (City of Sacramento 2009).



Figure 15. Ca. 1940 map of North Sacramento and vicinity; note the "Sacramento City Park" area at the top-right corner, which corresponds with present-day Del Paso Park. Source: Center for Sacramento History.

Throughout the 1920s and 1930s, the neighborhood's racial makeup was primarily white. However, during the Great Depression, there was an influx of African American residents to the region from the southern states seeking work due to economic hardships of the period. Many African American men found work with the Southern Pacific Railroad at the Sacramento Railyards north of downtown. Racial covenants and other discriminatory housing policies, most commonly known as "redlining" prevented many people of color from residing and purchasing homes in some of the more desirable areas of Sacramento, including North Sacramento. While North Sacramento would remain predominantly white over the following decades, the availability of land in the Del Paso Heights area presented an opportunity for many people of color to purchase homes, ultimately changing the overall demographic makeup of the community over to African American and eventually Latino majorities (Page & Turnbull 2022:26).

By the early 1960s, the City was annexing piecemeal areas surrounding North Sacramento, including portions of Del Paso Heights and other unincorporated communities. In 1964, the City of North Sacramento too was annexed following an election where the decision to join the City was made by a slim margin of votes. Annexation and the dilution of public services, combined with the opening of US Highway 160 and the closing of the nearby McClellan Air Force Base, is perceived to have brought economic hardship to the neighborhood. During the 1970s, the community became economically isolated and experienced rising crime and poverty. By the early 1990s, the Sacramento Housing and Redevelopment Agency (SHRA) adopted the Del Paso Heights Redevelopment Property and began investing in

infrastructure, street, and sewer improvements. This redevelopment invested millions into the neighborhood through 2001 (Page & Turnbull 2022:26; University of California, Santa Barbara [UCSB] 2023).

Parks and Recreation in Sacramento

Early Plazas, Public Parks, and Pleasure Grounds (1845-1901)

Public park spaces have been an integral part of Sacramento's urban fabric since its earliest development. Associated with the planning and surveying efforts of John Sutter, Jr. in 1849, the city's foundational grid included entire city blocks set aside as public plazas, rationally located throughout. The initial plan included 10 plazas, nine of which still exist including Plaza Park (today, Cesar E. Chavez Plaza), Roosevelt Park, Fremont Park, Winn Park, Marshall Park, Stanford Park, Grant Park, Muir Playground, and Sacramento Memorial Auditorium (Figure 16 and Figure 17) (Kremer 2012). The original iterations of these plazas were consistent with similar park spaces found throughout the United States during this period. They were often defined by a perimeter walking path with axial, insular walking paths tending into the park space and converging upon a central element, such as a fountain, statue, or similar feature. The interstitial landscape would include a mixture of open space with turf, low-profile plantings, and larger shrubs and trees serving as screening and anchoring elements, either oriented in sporadic or formal configurations.

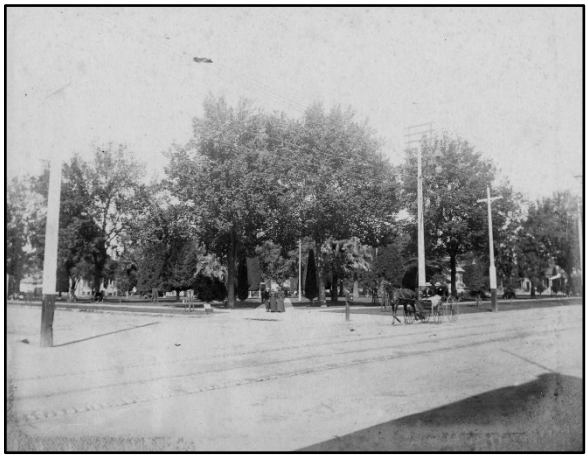


Figure 16. Ca. 1890 photograph of Plaza Park, now Cesar Chavez Park in downtown Sacramento. Source: Sacramento Public Library.



Figure 17. 1905 photograph of Winn Park in Sacramento. Source: University of California, Berkeley.

In addition to the original city's public plaza spaces, the State of California (State) was also an important part of developing Sacramento's public parks. In a bid to cement Sacramento's selection as the state capital in 1854, the City offered land at Plaza Park for the State Capitol building. However, the site was ultimately infeasible and a new, larger location was provided to the southwest. The initial landscape around the State Capitol was formal with concentric axial pathways radiating from its four façades. However, through the effort of the State, additional lands spanning over 10 city blocks were acquired for a new grand park. Throughout the 1870s, Capitol Park was landscaped in the Victorian tradition with a symmetrical, oval-

shaped carriage route, expansive lawns, and over 800 trees and other plants spread throughout the landscape (Page & Turnbull 2019a:164–165). In the following years, Capitol Park would be added to with several amenities, including exhibition halls and pavilions for the State Fair.[1]

As tastes changed towards the late nineteenth century, these early plazas and public parks were often redeveloped to include more naturally appearing plantings and "picturesque" landscapes with meandering pathways (Figure 18). This coincided with the concept of the "pleasure ground," which became the model for the development of public parks in Sacramento. Characterized by their romantic and idyllic picturesque qualities, the pleasure ground and wilderness parks were born out of the American Transcendentalist movement of the late nineteenth century, which promoted natural and open spaces as a regenerative experience in contrast to the conditions within industrialized urban centers of the period (Prosser 2017:7–8). Although intended to be natural settings, pleasure ground parks were carefully designed and maintained to create the illusion of a natural, organic setting.

In Sacramento, like so many cities throughout the United States, these park types also had a practical role in redeveloping land that had no profitable use or was perceived as undevelopable, either through uneven terrain, poor drainage, or other site conditions that impeded construction. In many cases, these parks also were used as a real estate speculation tool, turning poor-quality land into a desirable public amenity, which spurred the subdivision and sale of the surrounding lands as new neighborhoods. The earliest example of the pleasure ground park is McKinley Park. Originally known as East Park, the property was a low-lying slough located on the outskirts of Sacramento. The land was purchased by the Sacramento Street Railway Company in 1871 and transformed into a park over the following year. Upon opening in 1872, the park was celebrated for its collection of plantings and meandering avenues and walkways. Over time, additional amenities were added, including conversion of the slough into a picturesque lake and the addition of a zoo, flower gardens, and picnic grounds (Figure 19). The park became an incredibly popular destination and ultimately as a catalyst for residential development in early East Sacramento (Nelson 2018:8.24–8.26).

[1] In addition to Capitol Park, the State founded the State Agricultural Park during the same period in 1861. Located in the present-day neighborhood of Boulevard Park, Agricultural Park was the early fairgrounds and featured a prominent horse racing track and agricultural exhibition space. While a notable public space, the property was specifically developed as a fairground and not a public park.



Figure 18. 1905 photograph of Marshall Park in Sacramento. Source: University of California, Berkeley Bancroft Library.



Figure 19. 1912 photograph of three women overlooking the lake at McKinley Park. Source: Center for Sacramento History.

Municipal Parks and Public Recreation (1905-1941)

During the early twentieth century, the public park evolved from the pleasure ground to a more modern iteration of the municipal park. In addition to planned and manicured open spaces—expressed in a mixture of picturesque and formal compositions—municipal parks began featuring a series of amenities and facilities that catered to a variety of recreational uses, marking a shift from a "passive enjoyment of the landscape" to more developed activities and amenities (Prosser 2017:11). Consistent with the Progressive-era reforms of the early twentieth century, the municipal park model of the Reform Park Movement would often feature various educational and cultural programs, as well as the promotion of the outdoors and sport, all through purpose-built buildings, structures, playing fields, and other well-defined facilities separate from the general open and more naturalistic spaces of the park (Prosser 2017:11; Mead & Hunt and PGA Design 2012:8).

Early examples of the municipal park model came through the re-imagining and partial redevelopment of the existing pleasure ground parks through the introduction of new amenities and facilities. This was evident at McKinley Park. By 1902 upkeep of the park was prohibitively expensive, relying on non-profit organizations to first manage, and later own, the park. In 1911 the City annexed East Sacramento and took ownership and control of McKinley Park. By then, the park had been expanded to include running tracks, a deer park, a clubhouse, and early sporting fields for baseball, tennis, and basketball (Nelson 2018:8.24–8.26).

Another major early municipal park in Sacramento was Southside Park. Similar to McKinley Park, Southside Park was constructed on low-lying land with poor drainage. The area, which had been prone to flooding, was protected by a series of levees in 1902, opening south of downtown Sacramento to development. With the intent of creating a new regional park, the City purchased the land in 1905 and hired San Francisco-

based landscape architect John McLaren, designer of Golden Gate Park, to create Southside Park in the emerging municipal park vein, which mixed elements of the pleasure ground model with new recreational amenities. Using the low lying land, the design for the park had a central lake with large open spaces, picnic grounds, prominently placed shade trees, meandering pathways, and a clubhouse facility (Figure 20). Southside Park initially opened to the public in 1907 and would continue to evolve over the following decades to include a variety of amenities, including bocce courts, a bandstand, and playgrounds (Burg 2017:8.10–8.12).



Figure 20. Ca. 1915 photograph of Southside Park, Sacramento. Source: Center for Sacramento History.

In 1911 the City sought to explore potential areas for new, grand parks. The city purchased 800 acres of land along Arcade Creek well north of the city's boundaries at present-day Del Paso Park and hired Boston-based planner John Nolen to provide a new development plan for the new parkland, and later a broader Sacramento park system plan. Nolen ultimately recommended the expansion of over 100 new parks and open spaces throughout the city, with Del Paso Park being the central unifying component. However, the plans never came to fruition, due in large part to the relatively remote location of Del Paso Park form the city (Mead & Hunt and PGA Design 2012:13–14).

The full realization of the municipal park model came soon after. The same year that the City purchased the land for Del Paso Park, William Land, a successful businessman and civic leader, passed away and donated a large area of land south of the city for use as a public park. William Land Park was slow to be developed, but ultimately came to fruition by the mid-1920s. In addition to expansive, open park space, William Land Park featured a number of amenities, including athletic fields, curved pleasure drives, playgrounds, a large

pond, a golf course, and the Sacramento Zoo (Figure 21). The park would continue to evolve over the following years with improvements conducted by the City, and later federal work relief programs under the New Deal-era, namely the Works Progress Administration (Mead & Hunt and PGA Design 2012:15–20). Today, William Land Park remains one of the preeminent municipal parks in Sacramento.



Figure 21. 1939 aerial photograph of the southwest corner of William Land Park, view north. Source: Center for Sacramento History.

Post-war Parks and Recreation (1945-Present

The postwar period in Sacramento, as elsewhere throughout California and the broader United States, was defined by increased suburbanization, which in turn led to new parks outside of the traditional urban and municipal parks of the previous decades. This, coupled with an emphasis on increased recreation, play, sport, and fitness driven in part by federal policy, led to an expansion of playgrounds, playing fields, and other sporting facilities throughout the Sacramento area (**Error! Reference source not found.**) (Mead & Hunt and PGA Design 2012:10).

With the construction of new communities, the neighborhood park would become the dominant model for park development. These were essential, unifying elements within each community. Often a few acres in size, these parks provided playgrounds, sporting fields or courts (baseball diamonds, basketball courts, tennis courts, etc.), picnic spaces, and occasionally community centers or clubhouses, all surrounded by landscaped open park space. Another inherent element of the neighborhood park was the parking lot.

Despite being within a neighborhood, the automobile had become ubiquitous with postwar life, and parking lots to provide park access were essential in postwar neighborhood parks. In addition to the neighborhood parks, the postwar period saw the rise of the regional recreation center. Larger in size, these parks would be designed around expanded recreational facilities, including public swimming pools, complexes of athletic fields, gymnasiums, and golf courses (Prosser 2017:29–30). Examples of postwar, neighborhood parks and regional recreation centers include Tahoe, Glenn Hall, Belle Coolidge, Northgate, Woodbine, and George Sim Parks.



Figure 22. Little league game at Tahoe Park, 1960. Source: Center for Sacramento History.

While postwar parks utilized the modernist architectural vocabulary and focused on a variety of recreational amenities and sports facilities, later postwar parks in Sacramento would revert to a more picturesque and natural aesthetic. This was reflected in new greenbelt-focused parks, which exhibit more naturally apparent landscapes as part of the promotion of outdoor education and a more tranquil experience, marking a return to a more wilderness park and pleasure ground-based ethos within the context of the emerging environmental conservation concerns (Prosser 2017:38). Examples include Frank Seymour Park, Bannon Creek Park and Parkway, and Sutter's Landing Regional Park.

Property History

Del Paso Regional Park

As outlined in previous sections, Del Paso Park was initially established in 1911, when the City purchased around 800 acres in the Del Paso Heights area from the SVCC for the purposes of creating a grand public park (Figure 23). The City Trustees agreed on the name "Del Paso Park" in honor of the Mexican-era rancho, of which the property had once been a part of. While the park remained largely natural and undeveloped for the early decades of the park, some early amenities were constructed, including walking trails, picnic tables, lighting, and playground equipment (Figure 24) (Cardno 2015).

In 1914 the City of Sacramento hired planner John Nolen to grand park layout. That next year, Nolen submitted his plan, an ambitious turn-of-the-century "garden city" that would include botanical gardens, a Greek theater, a lake, and an athletic field in the growing, progressive municipal park model, which would be integrated into a larger park and greenbelt system along the American River. However, the plan proved too expensive, and the distance of Del Paso Park from the then-city boundaries south of the American River presented a logistical challenge; the City never implemented Nolen's design. Instead, City planners initiated plans to develop the park grounds into public recreational facilities. The first of these developments occurred in 1926 when the City leased 20 acres to the Sacramento Trap Shooting Club. In 1932 the City established an 18-hole golf course on the park's east side. Originally called the Sacramento Municipal Golf Course, the now-named Haggin Oaks Golf Course was designed by Alister McKenzie, a prominent golf course designer and landscape architect responsible for the Cypress Point Golf Course in Monterey, California, and the U.S Masters Course at the Augusta National Golf Club in Augusta, Georgia (Morton 2014; Swesey 2022; *The Sacramento Bee* 2008; UCSB 2023).

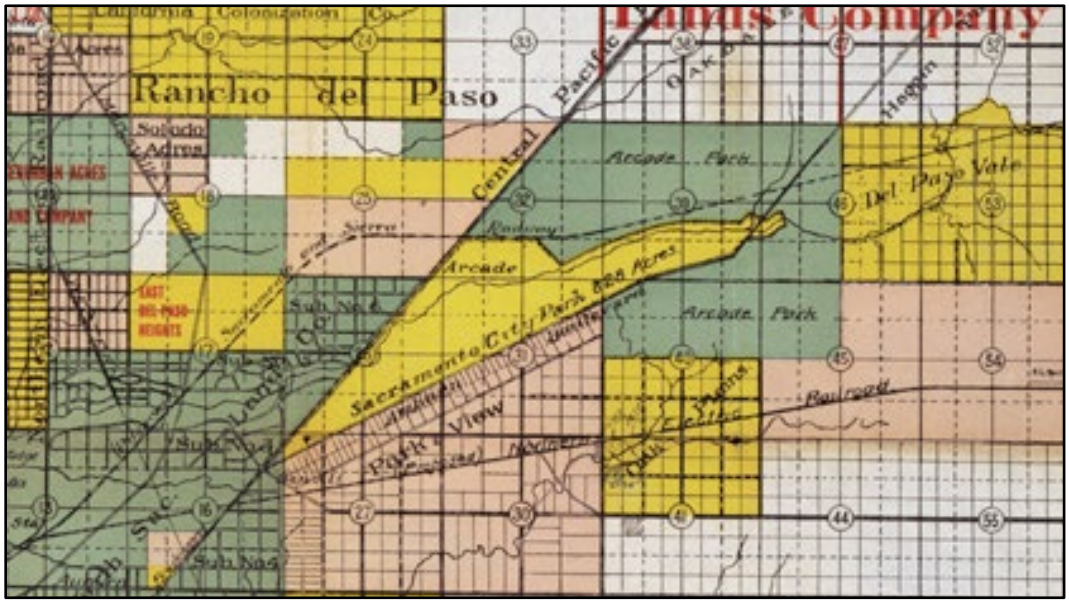


Figure 23. Excerpted portion of a 1916 map of suburbs in the North Sacramento area, showing the City-owned park property that would become Del Paso Park. Source: California State Library, California History Room.



Figure 24. 1937 photograph of Auburn Boulevard extending alongside Del Paso Park. Source: City of Sacramento Public Library.

By 1940 Watt Avenue was constructed and extended into the park, ultimately bisecting it into east and west sections (Figure 25). The park experienced more development in 1946 when the Sacramento Horsemen's Association (SHA) obtained a 20-year lease for a clubhouse and stables on the park property. Initially formed as the Sacramento Sherriff's posse in 1937, the SHA sponsored horse shows and rodeo events around the Sacramento area, including at their facilities in Del Paso Park. The club expanded in 1956 with the construction of the Saddle Oaks Clubhouse, a new barn in 1962, and a small arena in the 1970s. The expansion of the SHA and enlargement Haggins Oaks brought more residents to the park, which prompted the city to create more recreational facilities. By 1963 the Capital City Highway, the business loop section of Interstate 80, further separated the two sections of the park (*The Sacramento Bee* 1942; SHA 2022).

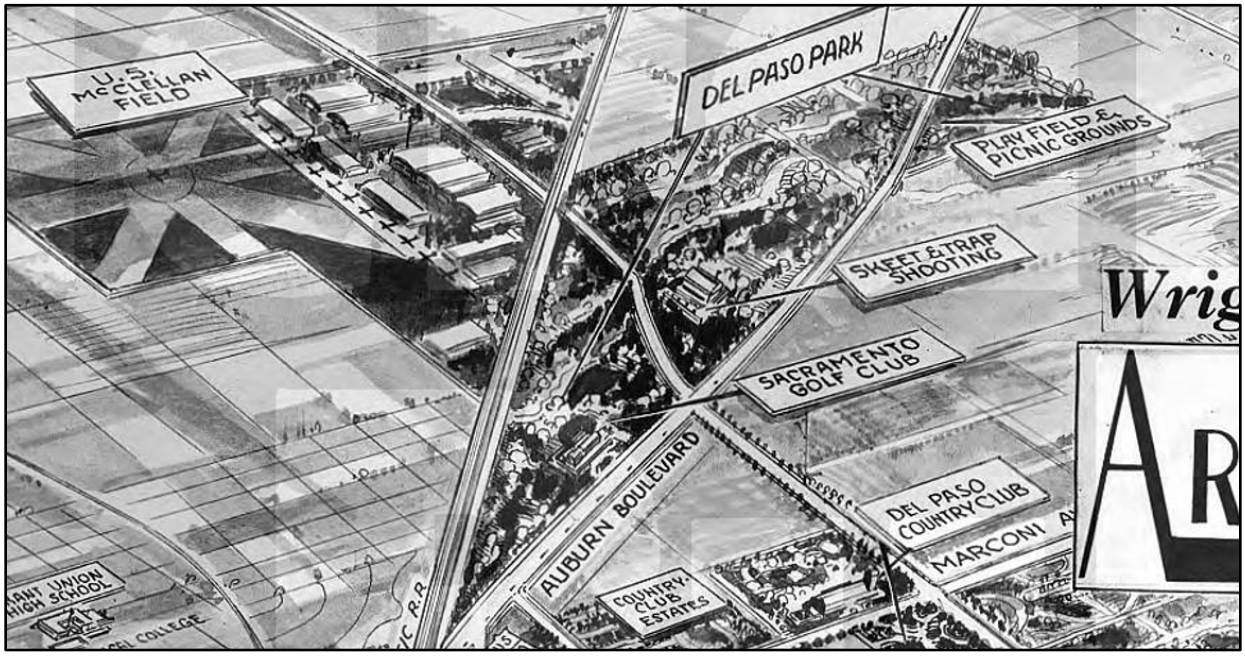


Figure 25. Excerpt from a 1940 sketch map of North Sacramento, illustrating Del Paso Park and some of its facilities and amenities. Source: City of Sacramento Public Library.

As the economic prosperity of the postwar years brought more Americans outside, the demand for recreational activities in public spaces increased. The City began developing the western portion of the park in the late 1960s, as previous improvements primarily occurred on the east side of the property. In 1968 the City constructed a baseball field in memory of Harry Renfree, who worked for the City's Recreation and Parks Department for 30 years. Construction cost around $250,000, and a dedication service occurred on May 12, 1968. This project was the first significant development on the park's east side and helped usher in new projects that attracted people to the area (*The Sacramento Bee* 1951a, 1968a, 1968b). Use of the east portion of Del Paso Park intensified further in 1976, when the Discovery Museum moved its location from Cal Expo to Del Paso Park. Initially founded by the California Science Museum in 1951, the museum served as a "place where children and adults could both touch and be touched by the wonders of science and nature." The museum operated at Cal Expo for over 20 years before the site became no longer favorable due to the California State Fair moving to the location. The museum changed names again to the Sacramento Science Center and Junior Museum, which reflected the changing scope of programs and exhibits in natural and physical science.

Throughout the 1980s, Del Paso Park continued to evolve. To expand sporting opportunities, the City constructed a softball complex paid for by a grant from the California DPR under the California Park Land Bond Act of 1984. The Sacramento Softball Complex features four diamonds, a restaurant, picnic area, parking lot, and a two-lane bridge across Arcade Creek (*The Sacramento Bee* 1951b; Johnson 1991; SMUD Museum of Science and Curiosity [MOSAC] 2022; Smith 2022).

The park continued to serve as a popular recreation center throughout the 1990s and early 2000s. However, with California's rising homeless problem, the park became subject to illegal encampments, particularly along the park boundaries adjoining the freeways and the Union Pacific Railroad alignment to the west. In 2020 the Discovery Museum relocated to Downtown Sacramento and was renamed the MOSAC, and the city transformed the former museum building at Del Paso Park into a homeless respite center. In 2004 the City began leasing land on the west position of the park to a Honda dealership, which represents a recent example of multiple incursions along the peripheries of both the east and west sections of the park (*The Sacramento Bee* 2000; Clift 2022; Lillis 2016; Lindelof 2004).

Harry Renfree Field

Renfree Field is a baseball diamond facility that was constructed at Del Paso Park in 1967 and officially opened in 1968. Commissioned in part by the City and funded through private and non-profit donors, the baseball facility was noted as an early recreational baseball diamond with field lighting that would allow for night games. The baseball diamond and facilities were constructed for approximately $250,000, and was officially dedicated on May 12, 1968, by the City's Recreation Director who died suddenly in the years prior.

Initial planning for what would become Renfree Field began as late as 1965 (McDermott 2013). Community members and advocates for recreational baseball approached Renfree about the construction of a new baseball diamond with lighting that could facilitate nighttime games and play. Renfree would take the request and approach a number of organizations and individuals within the local baseball community to begin advocating to City Council. Among those included Sal H. Gomez, a noteworthy local businessman and promoter of sports in Sacramento, who helped push the funding drive for the facility, raising over $15,000 for the construction of bleachers and a restroom facility (McDermott 2013). Following the completion of the field in 1968, the facilities included the baseball field with perimeter fencing, dugouts, bleacher seating that could accommodate 800 spectators, a public restroom building, a standalone concession building, and a two-story clubhouse building with team lockers and a press box (Figure 26) (Conlin 1981).

The opening game at the facility featured a mixture of major and minor league players, who played alongside members of the original Sacramento Solons, an early Sacramento minor league baseball team that played sporadically between the late nineteenth century and mid-twentieth century. While the opening game and others hosted during the initial years of its operation drew large crowds of thousands of spectators, the majority of the baseball diamond's use was recreational with a number of different competitive, amateur and recreational baseball teams and leagues using the facility. However, despite this initial fanfare, the facility was beginning to lose its luster by the mid-1970s, as leagues—college, amateur, high school, and recreational—began using other, newer facilities (Bodding 1975).



Figure 26. 1971 aerial photograph showing Renfree Field soon after completion. Note the clubhouse building and clearly defined bleachers, dugout spaces, clubhouse and press box building, and restrooms; north is up. Source: UCSB 2023; Frame Finder, Flight CAS_3069, Frame 4-167.

In the 1980s, Renfree Field was often mentioned as a site for potential minor league, professional baseball. Following the end of the Solons in the early 1970s, Sacramento was absent a professional baseball team. Some efforts to establish a new team examined Renfree Field as a potential location, in addition to Cal Expo and other prominent areas within the city. However, despite the publicity around the notion, it is clear that the idea of using Renfree Field was never viable. On numerous occasions, issues around space constraints on the site and costs to make the necessary improvements were beyond what the City was willing to pay (*The Sacramento Bee* 1981; Conlin 1981, 1987).

The 1990s saw some renovations occur at Renfree Field for the first time since construction. The renovation included new sod, infield dirt, and decomposed granite, while the bleachers and backstop also underwent repair work. In the early 2000s, the playground was constructed immediately south of the baseball field and the Renfree Field parking lot was resurfaced (Figure 27). Despite the limited interventions, the facility continued to a state of decline and disrepair, which became more pronounced after the City made cuts to their Department of Parks and Recreation in the aftermath of the Great Recession. In 2012 following a fire in the press box related to vandalism, Renfree Field was closed. Plans from the non-profit and private sector to reinvest in Renfree Field would be common over the following years, although concrete plans did not materialize (Lillis 2012).



Figure 27. 2011 satellite image of Renfree Field, illustrating the conditions when it retained the original buildings and bleachers and was in continued use for baseball. Source: Google Earth Pro.

In 2018 the City constructed the second parking lot and walking path for the playground, located at the southeast corner of Renfree Field. The following year, the original buildings and bleachers were removed from Renfree Field, leaving only the backstop, chain-link fences, dugout benches, field lighting, and scoreboard (Figure 28).



Figure 28. 2022 satellite image showing existing conditions at Renfree Field. Source: Google Earth Pro.

Associated Individuals | Harry Renfree

Born in Sacramento on November 14, 1915, Alfred Harry Renfree spent his life as a public servant to the City. Son of Reginald H. Renfree, Alfred was a first-generation American as his family had migrated to the United States from England around 1900. One of five siblings, Alfred participated in numerous municipal sports leagues where he acquired a love for intermural activities. Alfred attended Sacramento High School and worked at the Sacramento Saw Works and Lyon-Darwin Hardware Company in Oak Park throughout the 1930s. In June of 1937, Alfred married Laura Shoemaker in Sacramento. Together the couple would have three daughters. Alfred's career in recreational sports began on a part-time basis in 1937 when he became manager of the Clunie Swimming Pool in McKinley Park. The City recreational department also utilized Alfred to officiate baseball, basketball, soccer, and volleyball leagues sponsored by the city (Ancestry 2023a, 2023b, 2023c).

The involvement of the United States in WWII forced many young men to put their lives on hold to fight against the Axis powers in Europe and the Pacific. A heart condition kept Alfred from wartime service. However, his brother Reginald who served as Superintendent of Sports for the City was drafted, and Harry took over the position temporarily. Upon Reginald's return in 1946, Harry became a recreational supervisor for the City and, in 1951, became the Sports Superintendent. Alfred's duties expanded in 1962 to take on adult activities such as golf and different senior programs. Outside work, Alfred was involved with various Masonic organizations, including the Washington Lodge No. 20, Scottish Rite bodies, and the Ben Ali Shrine. Alfred continued as superintendent until his death on December 7, 1966. Alfred collapsed during a meeting with his boss and brother Reginald. Coworkers attempted mouth-to-mouth resuscitation. Alfred was pronounced dead at the Sacramento Hospital. Because of Alfred's lengthy service to the Recreation Department, the City dedicated a baseball park in his name at Del Paso Park in 1968 (*The Sacramento Bee* 1966a, 1966b).



Figure 29. 1970 portrait of Sal Gomez for the Sacramento Metropolitan Chamber of Commerce. Source: Center for Sacramento History, Catalog No.2001/059/0220.

Associated Individuals | Salvador H. Gomez

Salvador "Sal" Hurtado Gomez was a noteworthy restauranteur, businessman, and promoter of professional and junior sports in the Sacramento area during the second half of the twentieth century (Figure 29). Sal Gomez was born in Hayden, Arizona in 1915 to parents Niacario and Maria Gomez, both of whom were from Jalisco, Mexico and immigrated to the United States ca. 1912. Gomez' father worked as a laborer in a smelting plant before the family ultimately resettled in Los Angeles, California ca.1927 (Ancestry 2023d). While Gomez's father worked in street construction, Sal took a job working in the wholesale food industry. By 1940 Sal was working as a foreman and salesman for the West Coast Banana Distributors in Los Angeles (Ancestry 2023e). By 1941, he was enlisted into the U.S. Army and served in the 339th Engineers unit during WWII. Gomez met his wife in Corona, where she was working in a war time defense supplies factory, and they were married in 1942. Upon returning from the war, Sal Gomez found that his prior position was no longer available, and he ultimately began working for an uncle who

ran a small tortilla making factory called "La Tolteca," located in the Boyle Heights neighborhood of Los Angeles (Castro 1992).

In 1947 Sal and Lucy Gomez moved to Sacramento, where they opened their own tortilla factor located at 1406 5th Street. The La Fiesta Tortilleria grew steadily over the following decades as Sal and Lucy Gomez continued to produce and market their product around the Sacramento area to both restaurants and grocery stores. They ultimately outgrew their original location and constructed a new purpose-built facility located at 9th and X Streets, near Stockton Boulevard (Figure 30). The new facility allowed them to meet impressive demands, including being distributed by Safeway grocery stores all Northern and Central California (Castro 1992). In addition to mass producing tortillas, Sal and Lucy Gomez opened their own restaurants known as the "La Fiesta Mexicatessen." The restaurant would experience notable success with several locations throughout the Sacramento area, including the former west end of downtown Sacramento, Arden-Arcade, and Carmichael (Figure 31).



Figure 30. 1961 photograph of the La Fiesta Mexicatessen located at 9th and X Streets. Source: Center for Sacramento History.



Figure 31. Ca.1955 photograph of the La Fiesta Mexicatessen restaurant located at 510 Capital Avenue in downtown Sacramento. Source: Center for Sacramento History.

In addition to Sal Gomez's success in business, he was a notable promoter of professional and recreational sports throughout Sacramento. He began playing golf for the networking opportunities and to advance his business interests, and was often involved in many golf tournaments throughout Sacramento. Gomez was also a charter member of the Northridge Country Club and the Mexican American Golf Association. Gomez was also involved in boxing promotion and was a notable promoter for baseball in the Sacramento region, sponsoring a variety of amateur and recreational teams, and leading the drive to finance the lighting at Renfree Field (Gibson 1996).

Gomez's involvement in civics extended beyond sport and recreation and included serving in a variety of organizations and committees, including the Sacramento Metropolitan Chamber of Commerce, the West

End Citizens Committee for Redevelopment, and the Lions Club (*The Sacramento Bee* 1954). In 1970 Gomez ran for election in the 8th California Assembly District as a Republican, but ultimately lost to Democratic incumbent and former May of North Sacramento Walter W. Powers (*The Sacramento Bee* 1970). While Gomez does not appear to have sought out elected office again, he continued to be a notable civic figure in Sacramento until his passing in 1996.

CRHR Evaluation

Criteria A/1

The recreational property at Renfree Field does not appear to be historically significant under Criterion 1. Constructed in 1968 as a municipal baseball field catering to amateur recreation, Renfree Field has no significant associations with the development of Sacramento, nor the surrounding neighborhoods in North Sacramento, all of which predate the property's construction. Similarly, Renfree Field has no significant associations with the development of parks and recreation in the Sacramento area. Parks were an essential part of Sacramento's initial development, and the construction of Renfree Field within that context is reflective of the general emphasis on sport as recreation in the postwar period, during which dozens of baseball diamonds were constructed throughout the city, region, and elsewhere in California and the broader United States. Although Renfree Field is notable for its use for local baseball in the amateur and recreational level during the period after its construction, particularly in relation to the development of many professional baseball players hailing from Sacramento, this is reflective of general patterns of use and is typical of many recreational facilities. As such, the association with the development of future professional athletes does not appear to rise to a level of significance under this criterion.

Perhaps the most interesting part of Renfree Field's history is its status as the first recreational and publicly accessible baseball facility in Sacramento that had field lighting, allowing for night games and extended play. While this development is noteworthy, it does not appear to rise to a level of significance under this criterion. The use of lighting provided extended playing time, which was a notable for the facility's use, but does not reflect a broader shift in the patterns of development of recreational baseball or sport. The installation of the lighting is simply a facility improvement that prolonged an existing recreational use beyond typical daytime hours, and is reflective of the general development of recreation through improved amenities and facilities. As such, the use of lighting at Renfree Field as an amenity does not individually rise to a level of significance related to recreation in Sacramento.

Lastly, Renfree Field is not associated with any one specific event that would qualify as significant under this criterion.

Therefore, Renfree Field does not appear to be eligible for listing in the CRHR under Criterion 1.

Criteria B/2

The recreational property at Renfree Field does not appear to be historically significant under Criterion 2. Although the baseball facilities are named after Harry Renfree, who was an important promoter of sport and recreation in Sacramento during the postwar period, the naming of the field is purely commemorative in nature. Renfree, who was a superintendent of the City's parks and recreational facilities during the 1960s,

had passed away suddenly in 1966, 2 years prior to the construction of the subject baseball field. Although he was involved in the early planning and promotion of the facility, this is true of all recreational facilities in Sacramento during this period. Furthermore, there is no direct association between Harry Renfree and Renfree Field that would qualify as significant under this criterion.

More inherently involved with the development of Renfree Field was Sal H. Gomez. Gomez was a noteworthy businessman, promoter of local sports, and civically involved individual in Sacramento during the second half of the twentieth century. Most associated with founding of the "La Fiesta" brand of tortillas, which were manufactured in Sacramento and distributed throughout Northern California, Gomez was a celebrated entrepreneur and leader within the Sacramento business community. Gomez was also heavily involved in the promotion of sports, particularly golf and baseball. While Gomez was involved as a leading personality in the funding drive for constructing Renfree Field, particularly the support facilities at the field, this association is representative of just one of his multiple efforts and initiatives within Sacramento. Although there is the potential for Gomez to be considered a locally significant individual, the contributions made by Gomez to history appear to be better reflected in other properties. Renfree Field, and specifically Gomez's involvement in the funding driving to facilitate its construction, with a particular focus on the restrooms and other support facilities, is reflective of Gomez's general civic engagement and does not appear to rise to a level of significance within the context of his contributions to Sacramento.

Lastly, the subject property does not appear to be significantly associated with any specific professional baseball player. While many future major and minor league baseball players from Sacramento in the 1970s onwards would use these facilities, this is a function typical of all baseball fields, of which there are dozens throughout the Sacramento area. Additionally, the status of these players as professional does not equate to significance under this criterion. Any association with Renfree Field is simply its use as a sporting facility with no likely contributions that would qualify as significant under this criterion.

Therefore, Renfree Field does not appear to be eligible for listing in the CRHR under Criterion 2.

Criteria C/3

The recreational property at Renfree Field does not appear to be historically significant under Criterion 3. Constructed in 1968 as a typical, municipal baseball field, the property is generally characterized by its vernacular qualities that are consistent with similar facilities located throughout Sacramento, California, and the broader United States. It does not retain any design elements or features related to a particular style or method of construction that would rise to a level of significance under this criterion. Similarly, Renfree Field appears to be a typical example of the baseball field property type. While it was noted at the time of construction for featuring lighting to allow for night games, this is a typical aspect of many baseball fields, which coincides with the other elements of Renfree Field that generally reflect established forms, features, and elements found in community-focused baseball facilities throughout all localities in the United States. The addition of lighting, while a noteworthy amenity to the field's overall function and capacity as a sporting facility, does not rise to a level of significance under this criterion as an example of the pervasive baseball

field property type. There is also no specific architect associated with Renfree Field, and it does not appear to reflect the work of a master designer.

Therefore, Renfree Field does not appear to be eligible for listing in the CRHR under Criterion 3.

Criteria D/4

The recreational property at Renfree Field does not appear to qualify as historically significant under this criterion. The "potential to yield information important to the prehistory or history of California" typically relates to archaeological resources; however, built environment resources can be considered historically significant if they are a source of information related to evolution and understanding of construction or similar historical themes. The subject recreational property is a typical, twentieth century municipal baseball field, the construction of which is well studied and documented.

Therefore, Renfree Field is not eligible for listing in the CRHR under Criterion 4.

Sacramento Register Evaluation

Criteria i

As stated previously, Renfree Field was constructed in the late 1960s and is reflective of the established postwar trend of increased sport as a predominant form of recreation. While baseball diamonds were found in Sacramento park facilities decades prior to WWII, the rise of the neighborhood park and regional recreation center led to the construction of numerous baseball fields throughout the city in the postwar period, of which there were dozens by the time Renfree Field was constructed in the late 1960s. Although Renfree Field is noted as the first lighted baseball diamond in the Sacramento area, this does not appear to rise to a level of historical significance under this criterion. Rather, the use of lighting is a noteworthy amenity that contributed to the facility's initial success by accommodating additional league play beyond typical hours. While this marked an expanded service capability, this does not appear to qualify as significant. Rather, it perpetuated an existing and well established recreational use and primarily provided scheduling flexibility, particularly during the winter months where daylight was at its shortest.

Therefore, Renfree Field does not appear to qualify as eligible for designation as a Sacramento Landmark and listing in the Sacramento Register under Criterion i.

Criteria ii

As described in the CRHR evaluation under Criterion 2, Renfree Field does not appear to have associations with individuals in a way that would qualify as significant under these criteria. Named after Harry Renfree, the director of the City's parks in the postwar period who died prior to the subject property's construction, the facility at Renfree Field is primarily commemorative in nature. While Renfree was involved in the initial plans for the facility, the same can be said of all recreational facilities throughout the city during his employment at the City. Furthermore, Renfree Field was not entirely an effort by the City, but was rather facilitated by a number of people in the private sector, as well as the general public. Of those, Sal H. Gomez was the most notable. A prominent businessman, civic leader, and promoter of sport and recreation, Gomez

was part of the initial funding drive for the development of Renfree Field. Specifically, Gomez spearheaded the effort to raise funds for specific facilities at Renfree Field, including the bleachers and restroom building, both of which are no longer extant. While Gomez was an important part in boosting the viability of Renfree Field, he was involved in multiple civic efforts throughout the city, in addition to his longstanding contributions to Sacramento's business community and the broader development of sports and recreation. As such, Renfree Field does not appear to rise to a level of significance for its associations with Sal H. Gomez under this criterion.

Therefore, Renfree Field does not appear to qualify as eligible for designation as a Sacramento Landmark and listing in the Sacramento Register under Criterion ii.

Criteria iii

Overall, Renfree Field is a typical baseball field and recreational facility from the second half of the twentieth century. Although baseball diamonds have been a fixture of parks and recreational facilities in Sacramento since the late nineteenth century, they came to particular prominence during the first half of the twentieth century and the first decade of the postwar period. By the time Renfree Field was constructed in the late 1960s, the baseball field was a ubiquitous recreational property type found at nearly all parks throughout the city. While Renfree Field originally demonstrated elevated amenities and features, including restrooms, concession stand, clubhouse with locker rooms, and a press box, this too was characteristic of baseball fields and does not specifically embody the distinctive characteristics of the property type in a significant fashion. This is exacerbated further by the loss of these facilities, all of which are no longer extant. Perhaps the most notable amenity at Renfree Field was the addition of field lighting, which allowed for extended hours of play. While this is noted as the first use of lighting at a recreational field in Sacramento, these features do not significantly embody a property type, but rather reflect an additional amenity to a pre-existing property type.

Therefore, Renfree Field does not appear to qualify as eligible for designation as a Sacramento Landmark and listing in the Sacramento Register under Criterion iii.

Criteria iv

Renfree Field is not associated with a creative individual or master architect, designer, or builder. It is a typical recreational baseball field that reflects generic and common construction practices. Therefore, Renfree Field does not appear to qualify as eligible for designation as a Sacramento Landmark and listing in the Sacramento Register under Criterion iv.

Criteria v

As noted above, Renfree Field is a typical municipal baseball field and recreational facility. It lacks any design features or other inherently artistic qualities that would rise to a level of significance under this criterion. Therefore, Renfree Field does not appear to qualify as eligible for designation as a Sacramento Landmark and listing in the Sacramento Register under Criterion v.

Criteria vi

Renfree Field is a typical municipal baseball facility. Constructed in the late 1960s and reflective of the established trends of increased sport as recreation during the postwar period, the documentation and understanding regarding the construction of similar facilities is well documented and understood. Therefore, Renfree Field does not appear to qualify as eligible for designation as a Sacramento Landmark and listing in the Sacramento Register under Criterion vi.

Evaluation Summary

Renfree Field does not individually exhibit any historical significance under any of the criteria for eligibility for listing in the CRHR or Sacramento Register. Therefore, Renfree Field does not individually qualify as a historical resource for the purposes of environmental review under CEQA.

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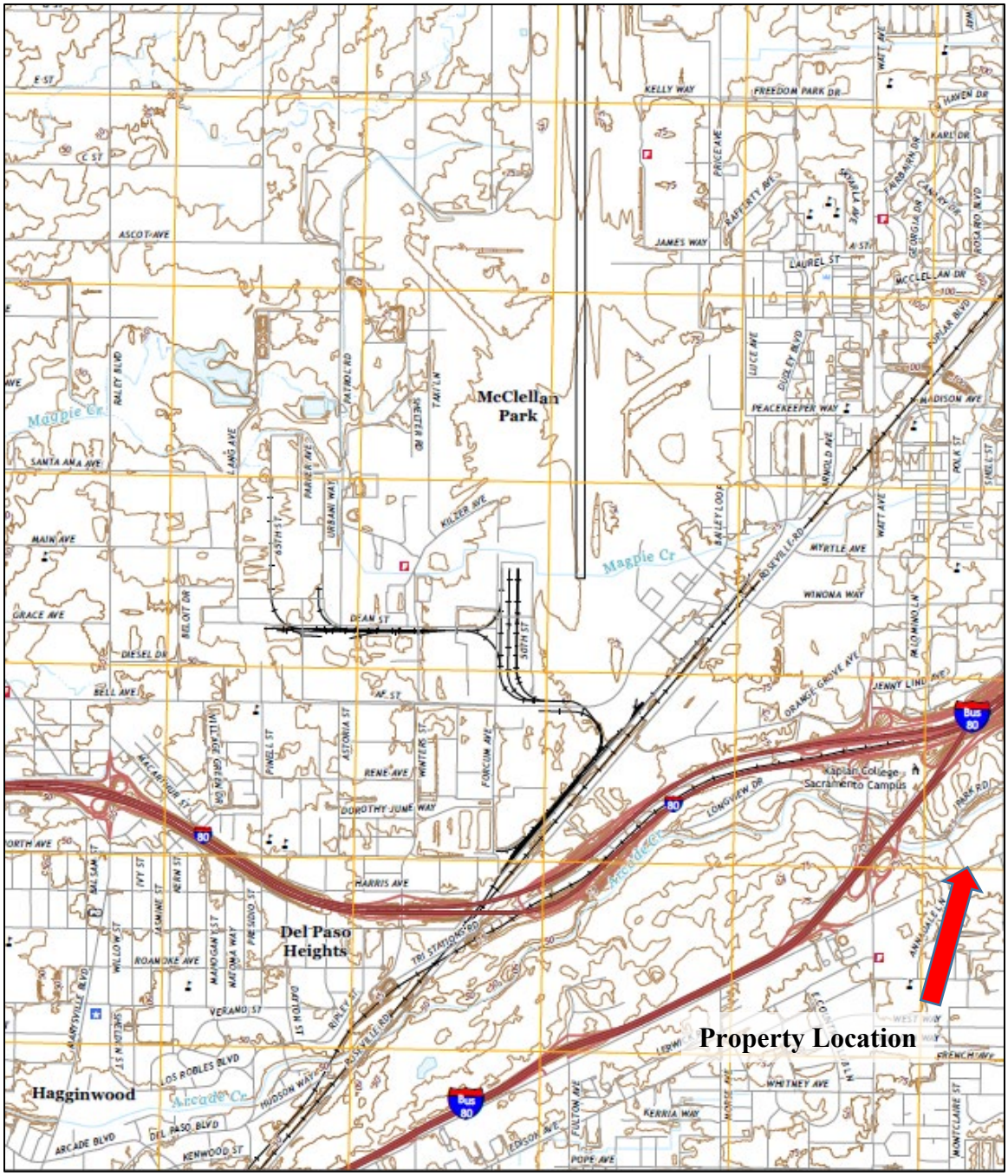
State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary#
HRI#
Trinomial

*Resource Name or # (Assigned by recorder) Renfree Field

*Map Name: Renfree Field Location Map (Rio Linda USGS Topo) *Scale: 1:24,000 *Date of map: 2022



*Required information

APPENDIX E

Geotechnical Investigation

APPENDIX E

Geotechnical Investigation

GEOTECHNICAL INVESTIGATION



PREPARED FOR:
CITY OF SACRAMENTO
DEPARTMENT OF YOUTH, PARKS,
AND COMMUNITY ENRICHMENT
915 I STREET, 3RD FLOOR
SACRAMENTO, CALIFORNIA 95814

City of SACRAMENTO

PREPARED BY:

GEOCON CONSULTANTS, INC.
3160 GOLD VALLEY DRIVE, SUITE 800
RANCHO CORDOVA, CALIFORNIA 95742

GEOCON

GEOCON PROJECT NO. S1145-05-21

MARCH 2023

GEOCON
CONSULTANTS, INC.
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

Project No. S1145-05-21
March 27, 2023

VIA ELECTRONIC MAIL

Dennis S. Day
Landscape Architect
City of Sacramento, Department of Youth, Parks, and Community Enrichment
915 I Street, 3rd Floor
Sacramento, California 95814
DDay@cityofsacramento.org

Subject: GEOTECHNICAL INVESTIGATION
DEL PASO PARK – RENFREE FIELD IMPROVEMENTS
3565 AUBURN BOULEVARD
SACRAMENTO, CALIFORNIA

Mr. Day:

In accordance with your authorization, we performed a geotechnical investigation for the subject project. The project consists of renovating the existing Renfree Field at Del Paso Park located at 3565 Auburn Boulevard in Sacramento, California.

The accompanying report presents our findings, conclusions, and recommendations regarding geotechnical aspects of the project as presently proposed. In our opinion, no adverse geotechnical conditions were encountered that would preclude the project, provided the recommendations of this report are incorporated into the design and construction of the project.

Please contact us if you have any questions regarding this report or if we may be of further service.

Respectfully Submitted,

GEOCON CONSULTANTS, INC.

Brenda P. Fernandez, EIT
Senior Staff Engineer

Jeremy J. Zorne, PE, GE
Senior Engineer

REGISTERED PROFESSIONAL ENGINEER
JEREMY J. ZORNE
No. 2636
GEOTECHNICAL
STATE OF CALIFORNIA

TABLE OF CONTENTS

GEOTECHNICAL INVESTIGATION PAGE

1.0 PURPOSE AND SCOPE 1

2.0 SITE AND PROJECT DESCRIPTION 2

3.0 SOIL AND GEOLOGIC CONDITIONS 2
- 3.1 Existing Pavement 2
- 3.2 Alluvium (Riverbank Formation) 2
- 3.3 Landscape Soil Suitability 3

4.0 GROUNDWATER 3

5.0 SEISMICITY AND GEOLOGIC HAZARDS 3
- 5.1 Regional Active Faults 3
- 5.2 Historical Earthquakes and Ground Shaking 3
- 5.3 Liquefaction 4
- 5.4 Expansive Soil 4
- 5.5 Soil Corrosion Potential 4

6.0 CONCLUSIONS AND RECOMMENDATIONS 7
- 6.1 General 7
- 6.2 Seismic Design Criteria 7
- 6.3 Soil Excavation Characteristics 9
- 6.4 Materials for Fill 10
- 6.5 Grading 10
- 6.6 Foundations – Shade Structures and Baseball Field Fencing 11
- 6.7 Retaining Walls 12
- 6.8 Concrete Sidewalks and Flatwork 13
- 6.9 Hot Mix Asphalt Pavement 14
- 6.10 Rigid Concrete Pavement 15
- 6.11 Site Drainage and Moisture Protection 16

7.0 FURTHER GEOTECHNICAL SERVICES 18
- 7.1 Plan and Specification Review 18
- 7.2 Testing and Observation Services 18

8.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS 19

9.0 REFERENCES 20

FIGURES
- Figure 1 – Vicinity Map
- Figure 2 – Site Plan
- Figure 3 – Proposed Development Plan

APPENDIX A
- FIELD EXPLORATION
- Figure A1 – Key to Logs
- Figures A2 through A6 – Logs of Exploratory Borings B1 through B5

TABLE OF CONTENTS (Continued)

APPENDIX B
LABORATORY TESTING PROGRAM
Table B1 – Expansion Index Test Results
Figure B1 – Summary of Laboratory Results
Figure B2 – Atterberg Limits
Figure B3 – Grain Size Distribution
Figure B4 – Moisture-Density Relationship

APPENDIX C
Landscape Soil Suitability Test Results (Sunland Analytical Laboratory)

GEOTECHNICAL INVESTIGATION

1.0 PURPOSE AND SCOPE

This report presents the results of our geotechnical investigation for the proposed renovations for the existing Renfree Field at Del Paso Park in Sacramento, California. The approximate site location is depicted on the Vicinity Map, Figure 1.

The purpose of our geotechnical investigation was to observe and sample the subsurface conditions encountered at the site and provide conclusions and recommendations relative to the geotechnical aspects of site improvements as presently proposed.

To prepare this report, we:

- Performed a limited geologic literature review to aid in evaluating the geologic and seismic conditions present at the site. A list of referenced material is included in Section 9.0 of this report.
- Reviewed available conceptual plans to select exploratory boring locations.
- Performed a site reconnaissance to determine access and mark out the proposed exploration locations.
- Notified subscribing utility companies via Underground Service Alert (USA) a minimum of two working days (as required by law) prior to performing excavations at the site.
- Performed five (5) exploratory borings (B1 through B5) with a truck-mounted drill rig equipped with 6-inch-diameter solid-flight augers to depths ranging from approximately 6½ to 16½ feet.
- Obtained representative samples from the exploratory borings.
- Logged the borings in general accordance with the Unified Soil Classification System (USCS).
- Upon completion, backfilled the exploratory borings with soil cuttings.
- Performed laboratory tests to evaluate pertinent geotechnical parameters.
- Prepared this report summarizing our findings, conclusions, and recommendations regarding the geotechnical aspects of site improvements as presently proposed.

Approximate locations of the exploratory borings are shown on the Site Plan, Figure 2 and Proposed Development Plan, Figure 3. Details of our field exploration program including exploratory boring logs are presented in Appendix A. Details of our laboratory testing program and test results are summarized in Appendix B. Landscape soil suitability test results and recommendations by Sunland Analytical Laboratory are presented in Appendix C.

2.0 SITE AND PROJECT DESCRIPTION

The project consists of renovating the existing Renfree Field at Del Paso Park located at 3565 Auburn Boulevard in Sacramento, California. The site is generally flat with approximate surface elevations ranging from 66 to 70 feet above mean sea level (MSL). The park currently includes a baseball field, a playground, a picnic area, a parking lot, concrete walkways, mature trees, and landscaping. The current site configuration is shown on the Site Plan, Figure 2.

The project will include constructing a pedestrian and vehicle concrete pathway, two baseball fields with 30-foot-tall baseball backdrops and 6- to 8-foot tall chain link overthrow fencing, concrete pads for benches and tables, an asphalt parking lot with curbs and driveway, an asphalt basketball court, two pickleball courts, turf planter areas, an irrigation system and well, and street frontage improvements along Auburn Boulevard and Bridge Road. The renovation will likely include the construction of shade structures which will be supported on cast-in-drilled hole (CIDH) concrete piers. The proposed 30-foot-tall baseball fencing will also likely be supported on CIDH concrete piers. The proposed project configuration is shown on the Proposed Development Plan, Figure 3.

3.0 SOIL AND GEOLOGIC CONDITIONS

We identified geologic and soil conditions by observing and sampling exploratory borings and reviewing the referenced geologic literature (Section 9.0). Soil descriptions below include the USCS symbol where applicable. Based on the *Preliminary Geologic Map of the Sacramento 30' x 60' Quadrangle*, California Geological Survey (CGS), 2011, the site is underlain by Quaternary-aged Riverbank Formation (map symbol Qr_2).

3.1 Existing Pavement

In Borings B1 and B2, we encountered approximately 2½ and 3 inches of hot-mix asphalt (HMA) pavement, respectively. We did not encounter pavement in Borings B3 through B5.

3.2 Alluvium (Riverbank Formation)

We encountered alluvium in each of our borings to the maximum depth explored of approximately 16½ feet. The alluvium generally consists of interbedded layers of very loose to very dense silty sand (SM), clayey sand (SC), poorly graded sand (SP), and soft to hard lean clay, sandy lean clay (CL), silty clay (CL-ML), and sandy silty clay (CL-ML). Soil conditions described in the previous paragraphs are generalized. The exploratory boring logs included in Appendix A detail soil type, color, moisture, consistency, and USCS classification of the soils encountered at specific locations and elevations.

3.3 Landscape Soil Suitability

Per the City of Sacramento's request, we collected a surface soil sample within the proposed turf area of the project (future baseball/soccer fields) and submitted it for laboratory analysis of landscape soil suitability. The sample was placed in a re-sealable plastic bag, labeled, and transported to Sunland Analytical Laboratory in Rancho Cordova, California. The laboratory analytical report, prepared by Sunland Analytical, is attached as Appendix C.

4.0 GROUNDWATER

We did not encounter groundwater in our exploratory borings on February 6,2023 to a maximum depth of approximately 16½ feet.

We reviewed available depth-to-groundwater data on the California Department of Water Resources (DWR) *Sustainable Groundwater Management Act (SGMA) Data Viewer* (https://sgma.water.ca.gov/webgis/?appid=SGMADataViewer#gwlevels). The SGMA Data Viewer website indicates that depth to groundwater at the site ranges from approximately 100 feet to 110 feet (Spring 2022).

It should be noted that fluctuations in the level of groundwater may occur due to variations in rainfall, temperature, and other factors. Depth to groundwater can also vary significantly due to localized pumping, irrigation practices, and seasonal fluctuations. Therefore, it is possible that groundwater may be higher or lower than the level observed during our investigation.

5.0 SEISMICITY AND GEOLOGIC HAZARDS

5.1 Regional Active Faults

Based on our research, analyses, and observations, the site is not located on any known "active" earthquake fault trace. In addition, the site is not contained within an Alquist-Priolo Earthquake Fault Zone. Mapped regional active faults are located several miles away from the site. Therefore, we consider the potential for ground rupture due to onsite active faulting to be low.

5.2 Historical Earthquakes and Ground Shaking

The Sacramento region has a history of relatively low seismicity in comparison with more active seismic regions such as the San Francisco Bay Area or Southern California. The two most commonly referred to earthquakes that resulted in some reported building damage in Sacramento are the Winters and Vacaville events in 1892. There are no reported occurrences of seismic-related ground failure in the Sacramento region due to earthquakes.

We used the United States Geological Survey (USGS) *Unified Hazard Tool* (https://earthquake.usgs.gov/hazards/interactive/) to determine the deaggregated seismic source parameters including controlling magnitude and fault distance. The USGS estimated modal magnitude is 6.7 and the estimated Peak Ground Acceleration (PGA) for the Maximum Considered Earthquake (MCE) with a 2,475-year return period is 0.30g.

5.3 Liquefaction

Liquefaction is a phenomenon in which loose, saturated, cohesionless soil deposits located beneath the groundwater table lose strength when subjected to intense and prolonged ground shaking. The seismic excitation increases pore water pressure, creating a buoyant effect of the loose soil. When liquefaction occurs, building foundations may sink or tilt and differential ground settlement may occur. Other effects include sand boils (ground loss) and lateral spreading if the liquefiable soil is located adjacent to a steep free face. The areas that have the greatest potential for liquefaction are those in which the water table is less than 50 feet below ground surface and the soils are predominately clean, poorly graded sand deposits of loose to medium-dense relative density.

The site is not located in a currently established State of California Seismic Hazard Zone for liquefaction. Based on the geologic conditions encountered at the site, including the lack of groundwater above 50 feet below ground surface, liquefaction potential at the site is expected to be low during seismic events. Mitigation and specific design measures with respect to liquefaction are not necessary for the project.

5.4 Expansive Soil

Laboratory Plasticity Index and Expansion Index tests on selected near-surface soil samples indicate low plasticity and corresponding low expansion potential. Mitigation and specific design measures with respect to expansive soil are not necessary.

5.5 Soil Corrosion Potential

We performed pH, resistivity, chloride, and sulfate tests on representative soil samples to generally evaluate the corrosion potential of the soil with respect to proposed subsurface structures. These tests were performed in accordance with California Test Method (CTM) Nos. 643, 422, and 417. The results are presented in Table 5.6A and should be considered for design of underground structures.

TABLE 5.5A
SOIL CORROSION PARAMETER TEST RESULTS
(CALIFORNIA TEST METHODS 643, 417, AND 422)

Sample No.	Sample Depth (ft.)	pH	Minimum Resistivity (Ohm-cm)	Chloride (ppm)	Sulfate (ppm)
B3 Bulk	0-5	8.1	1,770	3.2	186.4

Note: ppm = parts per million

Soil with a low pH (higher acidity) is considered corrosive as it can react with lime in cement to leach out soluble reaction products and result in a more porous and weaker concrete. Per Caltrans *Corrosion Guidelines* (Caltrans, 2021), soil with a pH of 5.5 or lower may be corrosive to concrete or steel in contact with the ground. Based on the laboratory pH test results and Caltrans criteria, soil at the locations tested does not have a higher propensity for corrosion.

Soil resistivity is the measure of the soil's ability to transmit electric current. Corrosion of buried ferrous metal is proportional to the resistivity of the soil. A lower resistivity indicates a higher propensity for transmitting electric currents that can cause corrosion of buried ferrous metal items. In general, the higher the resistivity, the lower the rate for corrosion. Per Caltrans *Corrosion Guidelines*, resistivity serves as an indicator parameter for the possible presence of soluble salts and it is not included as a parameter to define a corrosive area for structures. A minimum resistivity value for soil less than 1,500 ohm-cm may indicate the presence of high quantities of soluble salts and a higher propensity for corrosion. Based on the laboratory minimum resistivity test results and Caltrans criteria, soil at the locations tested does not have a higher propensity for corrosion.

Table 5.6B presents a summary of concrete requirements set forth by the California Building Code (CBC) Section 1904 and American Concrete Institute (ACI) 318 for possible chloride exposure. Chlorides can break down the protective oxide layer on steel surfaces resulting in corrosion. Sources of chloride include, but are not limited to, deicing chemicals, salt, brackish water, seawater, or spray from these sources.

TABLE 5.6B
REQUIREMENTS FOR CONCRETE EXPOSED TO CHLORIDE-CONTAINING SOLUTIONS
(AFTER ACI 318 TABLES 19.3.1.1 and 19.3.2.1)

Chloride Severity	Exposure Class	Condition	Maximum Water to Cement Ratio by Weight	Minimum Compressive Strength (psi)
Not Applicable	C0	Concrete dry or protected from moisture	N/A	2,500
Moderate	C1	Concrete exposed to moisture but not to external sources of chlorides	N/A	2,500
Severe	C2	Concrete exposed to moisture and an external source of chlorides	0.40	5,000

The appropriate Chloride Severity/Exposure Class should be determined by the project designer based on the specific conditions at the location of the proposed structure. Further guidance is provided in ACI 318. Per Caltrans *Corrosion Guidelines*, soil with a chloride concentration of 500 ppm or higher may be corrosive to steel structures or steel reinforcement in concrete. Based on Caltrans criteria, soil at the locations tested is not corrosive with respect to chloride content.

Table 5.6C presents a summary of concrete requirements set forth by CBC Section 1904 and ACI 318 for sulfate exposure. Similar to chlorides, sulfates can break down the protective oxide layer on steel leading to corrosion. Sulfates can also react with lime in cement to soften and crack concrete.

TABLE 5.6C
REQUIREMENTS FOR CONCRETE EXPOSED TO SULFATE-CONTAINING SOLUTIONS
(AFTER ACI 318 TABLES 19.3.1.1 and 19.3.2.1)

Sulfate Severity	Exposure Class	Water-Soluble Sulfate (SO_4) Content		Cement Type (ASTM C 150)	Maximum Water to Cement Ratio by Weight[1]	Minimum Compressive Strength (psi)
		Percent By Mass	Parts Per Million (ppm)			
Not Applicable	S0	$SO_4 < 0.10$	$SO_4 < 1,000$	No Type Restriction	N/A	2,500
Moderate	S1	$0.10 \leq SO_4 < 0.20$	$1,000 \leq SO_4 < 2,000$	II	0.50	4,000
Severe	S2	$0.20 \leq SO_4 \leq 2.00$	$2,000 \leq SO_4 \leq 20,000$	V	0.45	4,500
Very Severe	S3 – Option 1	$SO_4 > 2.00$	$SO_4 > 20,000$	V+Pozzolan or Slag	0.45	4,500
	S3 – Option 2			V	0.40	5,000

Notes:
1. Maximum water to cement ratio limits are different for lightweight concrete, see ACI 318 for details.

Based on the laboratory test results, the Sulfate Severity is classified as "Not Applicable", and the Exposure Class is S0. The concrete mix deign(s) should be developed accordingly. The presence of water-soluble sulfates is not a visually discernible characteristic; therefore, other soil samples from the site could yield different concentrations. Additionally, over time landscaping activities (i.e., addition of fertilizers and other soil nutrients) may affect the concentration.

Geocon does not practice in the field of corrosion engineering and the above information is provided as screening criteria only. If corrosion sensitive improvements are planned, we recommend that further evaluations by a corrosion engineer be performed to incorporate the necessary precautions to avoid premature corrosion on buried metal pipes and metal or concrete structures in direct contact with the soils.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 General

6.1.1 No soil or geologic conditions were encountered during our investigation that would preclude development of the site as planned, provided the recommendations contained in this report are incorporated into the design and construction of the project.

6.1.2 Conclusions and recommendations provided in this report are based on our review of referenced literature, analysis of data obtained from our field exploration, laboratory testing program, and our understanding of the proposed development at this time. We should review the project plans as they develop further, provide engineering consultation as needed during final design, and perform geotechnical observation and testing services during construction.

6.2 Seismic Design Criteria

6.2.1 Seismic design of the structure should be performed in accordance with the provisions of the 2019 California Building Code (CBC) which is based on the American Society of Civil Engineers (ASCE)/Structural Engineering Institute (SEI) publication: *ASCE/SEI 7-16, Minimum Design Loads and Associated Criteria for Buildings and Other Structures* (ASCE/SEI, 2017). We used the *Structural Engineers Association of California* (SEAOC) and *Office of Statewide Health Planning and Development* (OSHPD) web application *Seismic Design Maps* (https://seismicmaps.org/) to evaluate site-specific seismic design parameters in accordance with ASCE 7-16.

For seismic design purposes, sites are classified as Site Class "A" through "F" as follows:

- Site Class A – Hard Rock;
- Site Class B – Rock;
- Site Class C – Very Dense Soil and Soft Rock;
- Site Class D – Stiff Soil;
- Site Class E – Soft Clay Soil; and
- Site Class F – Soils Requiring Site Response Analysis.

Based on the subsurface conditions at the site, the Site Classification is Site Class "D" per Table 20.3-1 of ASCE/SEI 7-16. For the purposes of evaluating code-based seismic parameters for design, we assumed a seismic Risk Category I, II, or III (per the CBC) for the project. Results are summarized in Table 6.2.1.

TABLE 6.2.1
ASCE 7-16 SEISMIC DESIGN PARAMETERS
SITE CLASS "D" – STIFF SOIL

Parameter	Value	ASCE 7-16 Reference
MCE_R Ground Motion Spectral Response Acceleration – Class B (short), S_S	0.484g	Figure 22-1
MCE_R Ground Motion Spectral Response Acceleration – Class B (1 sec), S_1	0.232g	Figure 22-2
Site Coefficient, F_A	1.413	Table 11.4-1
Site Coefficient, F_V	2.136	Table 11.4-2
Site Class Modified MCE_R Spectral Response Acceleration (short), S_{MS}	0.684g	Eq. 11.4-1
Site Class Modified MCE_R Spectral Response Acceleration (1 sec), S_{M1}	0.744g*	Eq. 11.4-2
5% Damped Design Spectral Response Acceleration (short), S_{DS}	0.456g	Eq. 11.4-3
5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}	0.496g*	Eq. 11.4-4

* Per Supplement 3 of ASCE7-16 (effective November 5, 2021), a ground motion hazard analysis (GMHA) shall be performed for projects on Site Class "D" sites with 1-second spectral acceleration (S1) greater than or equal to 0.2g, which is true for this site. However, Supplement 3 of ASCE 7-16 provides an exception stating that that the GMHA may be waived provided that the parameter SM1 is increased by 50% for all applications of SM1. The values for parameters SM1 and SD1 presented above have been increased in accordance with Supplement 3 of ASCE 7-16.

6.2.2 Table 6.2.2 presents additional seismic design parameters for projects with Seismic Design Categories of D through F in accordance with ASCE 7-16 for the mapped maximum considered geometric mean (MCE_G).

TABLE 6.2.2
ASCE 7-16 SITE ACCELERATION DESIGN PARAMETERS

Parameter	Value	ASCE 7-16 Reference
Mapped MCE_G Peak Ground Acceleration, PGA	0.204g	Figure 22-7
Site Coefficient, F_{PGA}	1.396	Table 11.8-1
Site Class Modified MCE_G Peak Ground Acceleration, PGA_M	0.285g	Section 11.8.3 (Eq. 11.8-1)

6.2.3 Conformance to the criteria presented in Tables 6.2.1 and 6.2.2 for seismic design does not constitute any kind of guarantee or assurance that significant structural damage or ground failure will not occur if a maximum level earthquake occurs. The primary goal of seismic design is to protect life and not to avoid structural damage, since such design may be economically prohibitive.

6.3 Soil Excavation Characteristics

6.3.1 In our opinion, grading and excavations at the site may be accomplished with standard effort using heavy-duty grading/excavation equipment. We do not anticipate project excavations to generate oversized rock material (greater than 6 inches in dimension) or boulders.

6.3.2 Temporary excavations must meet Cal-OSHA requirements as appropriate. Excavation sloping, benching, the use of trench shields, and the placement of trench spoils should conform to the latest applicable Cal-OSHA standards. The contractor should have a Cal-OSHA-approved "competent person" onsite during excavation to evaluate trench conditions and to make appropriate recommendations where necessary. It is the contractor's responsibility to provide sufficient and safe excavation support, as well as to protect nearby utilities, structures, and other improvements that may be damaged by earth movements.

6.3.3 The excavation support recommendations provided by Cal-OSHA are generally geared toward protecting human life and not necessarily toward preventing damage to nearby structures or surface improvements. The contractor should be responsible for using the proper active shoring systems or sloping to prevent damage to any structure or improvements near underground excavations.

6.3.4 Permanent cut and fill slopes should be constructed no steeper than 2H:1V (horizontal to vertical). To mitigate potential erosion, slopes should be vegetated as soon as possible and surface drainage should be directed away from the tops of slopes.

6.3.5 If grading occurs during or after the wet season (typically winter and spring), or in periods of precipitation, in-place and excavated soils will likely be wet. Earthwork contractors should be aware of moisture sensitivity of clayey and fine-grained soils and potential compaction/workability difficulties.

6.3.6 Earthwork and pad preparation operations in these conditions will likely be difficult with low productivity. Often, a period of at least one month of warm and dry weather is necessary to allow the site to dry sufficiently so that heavy grading equipment can operate effectively. Conversely, during dry summer and fall months, dry clay soils may require additional grading effort (discing, mixing, or other means) to attain proper moisture conditioning.

6.3.7 Based on laboratory testing, in-situ moisture content of site soils ranges from approximately 9% to 25% which is higher than optimum moisture content, which is approximately 8%. Due to the fine-grained nature of the soils and measured in-situ moisture contents above optimum, additional drying efforts to attain moisture contents suitable for compaction should be anticipated regardless of the time of year. Mitigation alternatives may include aerating/drying

the exposed soils (assuming favorable weather conditions), or chemical treatment (e.g., lime treatment). Unstable excavation bottoms may require overexcavating 12 to 18 inches and placing geotextile fabric/geogrid covered with aggregate, for stabilization. We can provide specific recommendations during construction, based on conditions encountered.

6.4 Materials for Fill

6.4.1 Excavated soils generated from cut operations at the site are suitable for use as fill in structural areas, provided they do not contain deleterious matter, organic material, or cementations larger than 6 inches in maximum dimension. Due to high in-situ moisture content, native soils reused as engineered fill will likely require aerating/drying to attain suitable moisture content for compaction, regardless of the time of year.

6.4.2 Import soil for general use (if needed) should be similar to onsite, native soils (e.g., similar plasticity and grain size distribution characteristics). Import soil should be free of organic material and construction debris, and should not contain rock/cementations larger than 6 inches in greatest dimension.

6.4.3 Environmental characteristics and corrosion potential of import soil materials should also be considered. Proposed import materials should be sampled, tested, and approved by Geocon prior to its transportation to the site.

6.5 Grading

6.5.1 All earthwork operations should be observed and all fills tested for recommended compaction and moisture content by a representative of Geocon.

6.5.2 All references to relative compaction and optimum moisture content in this report are based on the latest ASTM D1557 Test Procedure. Structural areas should be considered the areas extending a minimum of 5 feet beyond the outside dimensions of structures, including footings or overhangs carrying structural loads.

6.5.3 Prior to commencing grading, a pre-construction conference with representatives of the client, grading contractor, and Geocon should be held at the site. Site preparation, soil handling, and/or the grading plans should be discussed at the pre-construction conference.

6.5.4 Site preparation should begin with complete removal of existing pavement, underground utilities, debris, and organic-rich topsoil. Within areas to be developed, any existing trees and associated root systems should be removed. Roots larger than 1 inch in diameter should be completely removed. Smaller roots may be left in place as conditions warrant and at the discretion of our field representative.

6.5.5 Excavations or depressions resulting from site clearing operations, or other existing excavations or depressions, should be restored with engineered fill in accordance with the recommendations of this report.

6.5.6 After site preparation and over-excavation (where needed), exposed soil should be scarified 6 to 8 inches, uniformly moisture-conditioned at or above optimum moisture content, and compacted to at least 90% relative compaction. Scarification and recompaction operations should be performed in the presence of a Geocon representative to evaluate performance of the subgrade under compaction equipment loading and to identify any loose or unstable soil conditions that could require additional excavation.

6.5.7 Engineered fill consisting of onsite native sources and/or import fill material should be compacted in horizontal lifts not exceeding 8 inches (loose thickness) and brought to final subgrade elevations. Each lift should be moisture-conditioned at or above optimum and compacted to at least 90% relative compaction.

6.5.8 Final pavement subgrade, whether completed at-grade, by excavation, or by filling should be uniformly moisture-conditioned at or above optimum moisture content, compacted to at least 95% relative compaction and be stable. The 95% relative compaction requirement applies to the top 6 inches of pavement area subgrade; however, underlying materials must be sufficiently compacted and stable. We recommend proof-rolling the subgrade with a loaded water truck (or similar equipment with high contact pressure) to verify the stability of the subgrade prior to placing aggregate base (AB). We note that deeper scarification, moisture-conditioning, and compaction efforts may be required in order to achieve overall stability and compaction.

6.5.9 Underground utility trenches within structural areas should be backfilled with properly compacted material. Pipe bedding, shading, and trench backfill should conform to the requirements of the appropriate utility authority. Material excavated from trenches should be adequate for use as general backfill above shading, provided it does not contain deleterious matter, vegetation, or cementations larger than 6 inches in maximum dimension. Trench backfill should be placed in loose lifts not exceeding 8 inches, moisture-conditioned at or above optimum, and compacted to at least 90% relative compaction. Compaction should be performed by mechanical means only; jetting of trench backfill is not recommended.

6.6 Foundations – Shade Structures and Baseball Field Fencing

6.6.1 Proposed shade structure foundations and baseball field fencing will consist of CIDH concrete friction piers. CIDH piers should have a minimum diameter of 12 inches, a minimum embedment depth of 6 feet, and be designed using an allowable unit skin friction of 450 pounds per square foot (psf) to resist vertical downward loads. An allowable unit skin

friction of 300 psf plus the weight of the pier may be used to resist uplift loads. The allowable downward capacity and allowable uplift capacity may be increased by one-third when considering transient wind or seismic loads. Piers should have a minimum center-to-center spacing of at least three pier diameters.

6.6.2 Allowable passive pressure used to resist lateral movement of the piers may be assumed to be equal to a fluid weighing 300 pounds per cubic foot (pcf) with a maximum earth pressure of 3,000 psf. The allowable passive pressure may be applied over two pier diameters for isolated piers with a minimum center-to-center spacing of at least three pier diameters. The allowable passive pressure assumes a horizontal surface extending at least 5 feet or three times the surface generating the passive pressure, whichever is greater. The upper 1 foot should not be included in the design for lateral resistance.

6.6.3 The bottom of pier excavations should be cleaned of loose cuttings prior to the placement of steel and concrete. Experience indicates that backspinning the auger does not remove loose material, and a flat cleanout plate is necessary.

6.6.4 Suction effects created during auger withdrawal from the piers (during construction) can induce caving in fine-grained/clay soils. The contractor should be aware and prepared to mitigate for these potential caving conditions during construction.

6.6.5 If seepage or groundwater is encountered, water should be pumped from the pier excavation prior to placement of concrete.

6.6.6 A Geocon representative should be present during pier drilling to confirm that subsurface conditions encountered are consistent with those expected. If unexpected conditions are encountered, foundation modifications may be required.

6.7 Retaining Walls

6.7.1 Design of retaining walls and buried structures may be based on the lateral earth pressures (equivalent fluid pressure) summarized in Table 6.7.1.

TABLE 6.7.1
RECOMMENDED LATERAL EARTH PRESSURES

Condition	Equivalent Fluid Density
Active	40 pcf
At-Rest	60 pcf
Seismic[1]	Not Applicable

1. Based on recent research (Lew, et al. 2010), the seismic increment of earth pressure may be neglected if the maximum peak ground acceleration (PGA) at the site is 0.4 g or less. The Site Class Modified MCE_G Peak Ground Acceleration (PGAM) for this site is 0.21g; therefore, the seismic increment of earth pressure may be neglected.

6.7.2 Unrestrained walls be designed using the active case. Unrestrained walls are those that are allowed to rotate more than 0.001H (where H is the height of the wall). Walls restrained from movement (such as basement walls) should be designed using the at-rest case. The soil pressures above assume that the backfill material within an area bounded by the wall and a 1:1 plane extending upward from the base of the wall will be composed of the existing onsite soils.

6.7.3 Retaining wall foundations with a minimum depth of 18 inches may be designed using an allowable bearing capacity of 2,000 psf. To resist lateral movement of retaining wall foundations, an allowable passive earth pressure equivalent to a fluid density of 350 pcf for footings or shear keys poured neat against properly compacted engineered fill soils or undisturbed natural soils. This allowable passive pressure is based on the assumption that a horizontal surface extends at least 5 feet or three times the depth of the footing or shear key, whichever is greater, beyond the face of the retaining wall foundation. If this surface is not protected by floor slabs or pavement, the upper 12 inches of material should not be included in the design for lateral resistance. An allowable friction coefficient of 0.35 may be used for resistance to sliding between soil and concrete. Combined passive resistance and friction may be utilized for design provided that the frictional resistance is reduced by 50%.

6.7.4 The lateral earth pressure values listed in Table 6.7.1 assume drained backfill conditions. Retaining walls taller than 2 feet should be provided with a drainage system and waterproofed as required by the project architect. Positive drainage for retaining walls should consist of a vertical layer of permeable material positioned between the retaining wall and the soil backfill. The permeable material may be composed of a composite drainage geosynthetic or a natural permeable material such as crushed gravel at least 12 inches thick and capped with at least 12 inches of native soil. A geosynthetic filter fabric should be placed between the gravel and the soil backfill. Provisions for removal of collected water should be provided for either system by installing a perforated drainage pipe along the bottom of the permeable material which leads to suitable drainage facilities.

6.7.5 The recommendations presented above are generally applicable to the design of rigid concrete or masonry retaining walls with a level backfill and having a maximum retained height of 10 feet. In the event that walls higher than 10 feet or other types of walls are planned, Geocon should be consulted for additional recommendations.

6.8 Concrete Sidewalks and Flatwork

6.8.1 Sidewalk, curb, and gutter within City right-of-way should be designed and constructed in accordance with the latest City of Sacramento standards and details as applicable. The City of Sacramento requires at least 6 inches of compacted Class 2 aggregate base (AB) below concrete sidewalks for sites with an Expansion Index less than 75.

6.8.2 Onsite exterior concrete flatwork not subject to traffic loads should be at least 4 inches thick and be underlain by at least 6 inches of Class 2 AB compacted to at least 90% relative compaction.

6.8.3 We recommend using construction and control joints in accordance with ACI and/or PCA guidelines. Construction joints that abut building foundations should include a felt strip, or approved equivalent, that extends the full depth of the exterior slab. Exterior slabs should be structurally independent of building foundations except at doorways, where vertical movement could impact doorway operation. Dowels should be used at these locations.

6.9 Hot Mix Asphalt Pavement

6.9.1 We performed Resistance-Value (R-Value) testing on a representative bulk soil sample from proposed pavement areas. Our testing resulted in an R-Value of 12 (Appendix B). To account for subgrade soil variability, we recommend using an R-Value of 10 for pavement design.

6.9.2 The project civil engineer should determine the appropriate Traffic Index (TI) for pavement design. Table 6.9.2 provides alternative pavement sections based on the design methods of Caltrans' *Highway Design Manual* for various TIs. We can provide additional section designs upon request.

TABLE 6.9.2
FLEXIBLE PAVEMENT SECTIONS

Traffic Index	5.0	6.0	6.5	7.0
HMA (in.)	3.0	3.5	4.0	4.0
AB (in.)	9.0	12.0	13.0	14.0
Total Section Thickness (in.)	12.0	15.5	17.0	18.0

6.9.3 The recommended pavement section is based on the following assumptions:

1. Pavement subgrade soil has an R-Value of at least 10.
2. Class 2 AB has a minimum R-Value of 78 and meets the requirements of Section 26 of Caltrans' *Standard Specifications*.
3. Class 2 AB and the top 6 inches of subgrade are compacted to 95% or higher relative compaction at or near optimum moisture content.
4. Pavement subgrade should be compacted in accordance with the recommendations presented in this report.
5. HMA should conform to Section 39 of Caltrans' latest *Standard Specifications*.
6. Periodic maintenance of HMA pavements is performed.

6.9.4 To reduce the potential for water from landscaped areas migrating under pavement into the AB, consideration should be given to using full-depth curbs in areas where pavement abuts irrigated landscaping. The full-depth curbs should extend at least 6 inches or more into the soil subgrade beneath the AB. Alternatively, modified drop-inlets that contain weep-holes may be used to encourage accumulated water to drain from beneath the pavement.

6.9.5 Asphalt pavement section recommendations for driveways and parking areas are based on the design procedures of Caltrans' *Highway Design Manual* (Design Manual), Chapter 600, updated December 20, 2004. It should be noted that most rational pavement design procedures are based on projected street or highway traffic conditions and, hence, may not be representative of vehicular loading that occurs in parking lots and driveways. Pavement proximity to landscape irrigation, reduced traffic speed and short turning radii increase the potential for pavement distress to occur in parking lots even though the volume of traffic is significantly less than that of an adjacent street. The Design Manual indicates that the resulting pavement sections for parking lots are "minimized to keep initial costs down but are reasonable because additional AC surfacing can be added later, if needed, and generally without incurring traffic hazards or traffic handling problems." It is generally not economically feasible to design and construct the entire parking lot and driveways for the unique loading conditions previously described. Periodic maintenance of the pavement in these areas, therefore, should be anticipated.

6.10 Rigid Concrete Pavement

6.10.1 If rigid PCC pavement is used in automobile/light-truck traffic areas and in front of trash bin areas, we recommend that the concrete be at least 6 inches thick. PCC pavement should be underlain by at least 6 inches of Class 2 AB meeting the requirements of Section 26 of Caltrans' *Standard Specifications* and compacted to at least 95% relative compaction. Subgrade soils should be prepared and compacted in accordance with the recommendations of this report.

6.10.2 Subgrade soils should be prepared and compacted in accordance with the recommendations of this report. Subgrade should be finished to a smooth, unyielding surface and proof-rolled with a loaded water truck to verify stability.

6.10.3 PCC should have a minimum 28-day compressive strength of 3,500 pounds per square inch (psi). Adequate construction and crack control joints should be used to control cracking inherent in concrete construction. We note that the American Concrete Pavement Association (ACPA) recommends a maximum joint spacing no greater than 24X the slab thickness for PCC pavements directly underlain by granular bases.

6.10.4 Steel reinforcement, if used, should be detailed in accordance with PCA, ACI, or similar guidelines. Alternatively, macro synthetic fibers (Euclid Chemical Tuf-Strand SF or equivalent) mixed into the concrete mix may be considered in lieu of conventional steel reinforcement provided they meet the requirements of ASTM C1116 and ASTM D7508 for Type III Synthetic Fibers.

6.10.5 Adequate dowels should also be used at joints to facilitate load transfer and reduce vertical offset. In addition, the recommendations in Section 6.11.4 pertaining to deepened curbs, moisture cut-offs, and subsurface drainage apply to concrete pavements, sidewalks and flatwork, as well as asphalt pavements.

6.10.6 In general, we recommend that concrete pavements be detailed, designed, constructed, and maintained in accordance with industry standards such as those provided by the ACI and ACPA.

6.11 Site Drainage and Moisture Protection

6.11.1 Adequate site drainage is critical to reduce the potential for differential soil movement, soil expansion, erosion, and subsurface seepage. Under no circumstances should water be allowed to pond adjacent to building foundations. The site should be graded and maintained such that surface drainage is directed away from structures in accordance with the 2019 CBC or other applicable standards. In addition, surface drainage should be directed away from the top of slopes into swales or other controlled drainage devices.

6.11.2 Underground utilities should be leak free. Utility and irrigation lines should be checked periodically for leaks and detected leaks should be repaired promptly. Detrimental soil movement could occur if water is allowed to infiltrate the soil for prolonged periods of time.

6.11.3 We recommend implementing measures to reduce infiltrating irrigation water near buildings, flatwork, or pavements. Such measures may include:

- Selecting drought-tolerant plants that require little or no irrigation, especially within 3 feet of buildings, slabs-on-grade, or pavements;
- Using drip irrigation or low-output sprinklers;
- Using automatic timers for irrigation systems; or
- Using appropriately spaced area drains.

The project landscape architect should consider incorporating these measures into the landscaping plans.

6.11.4 Experience has shown that even with these provisions, subsurface seepage may develop in areas where no such water conditions existed prior to site development. This is particularly true where a substantial increase in surface water infiltration has resulted from an increase in landscape irrigation.

7.0 FURTHER GEOTECHNICAL SERVICES

7.1 Plan and Specification Review

7.1.1 We should review the foundation and grading plans prior to final design submittal to assess whether our recommendations have been properly incorporated and evaluate if additional analysis and/or recommendations are required.

7.2 Testing and Observation Services

7.2.1 The recommendations provided in this report are based on the assumption that we will continue as Geotechnical Engineer of Record throughout the construction phase and provide construction observation and testing services. Providing these services during construction is important to maintain continuity of geotechnical interpretation and to confirm that field conditions encountered during construction are similar to those anticipated during design. Testing and observation services by the Geotechnical Engineer of Record are necessary to verify that construction has been performed in accordance with this report, approved plans, and specifications. If we are not retained for these services, we cannot assume any responsibility for other's interpretation of our recommendations or the future performance of the project.

8.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, we should be notified so that supplemental recommendations can be given.

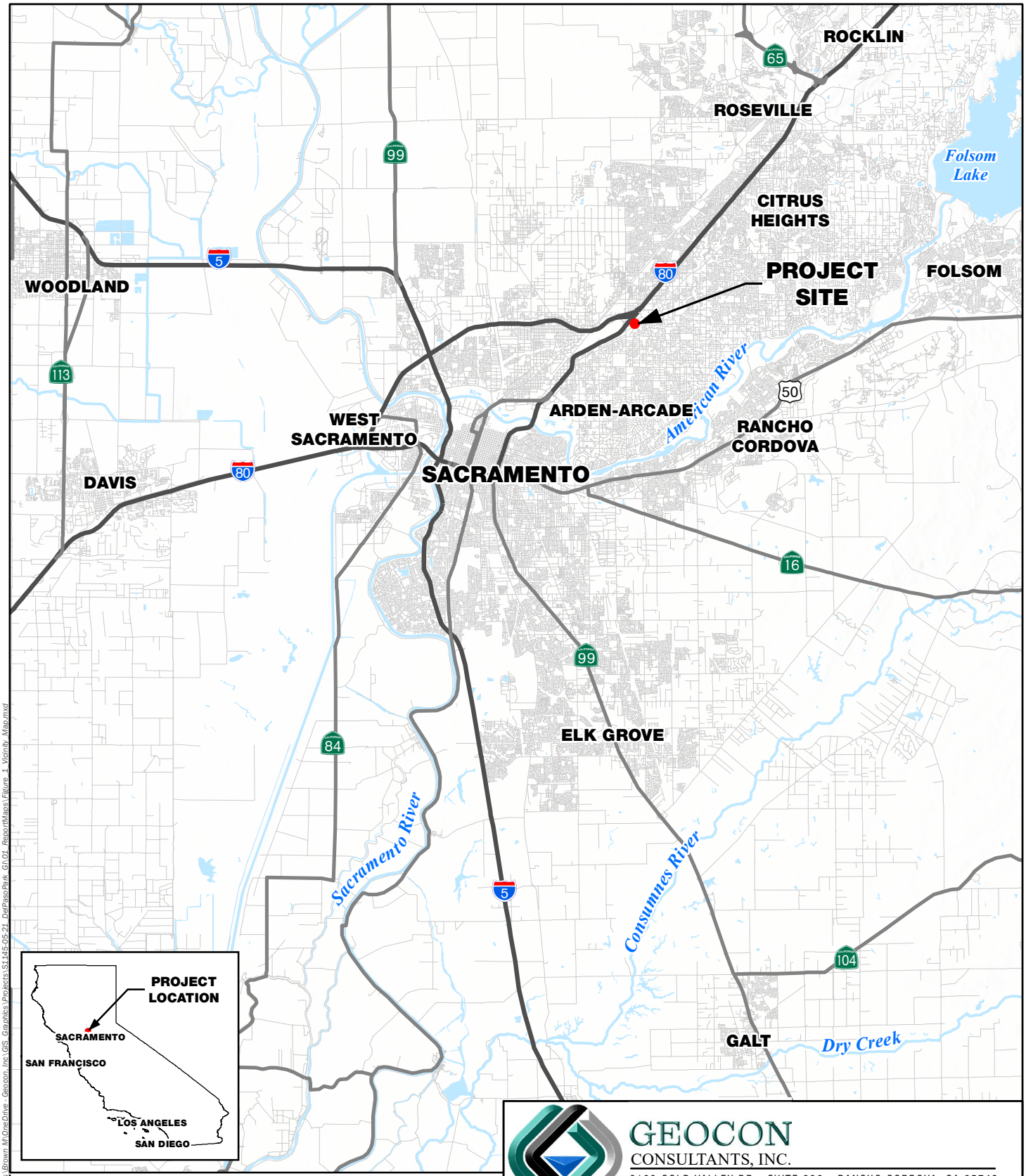
This report is issued with the understanding that it is the responsibility of the owner or their representative to ensure that the information and recommendations contained herein are brought to the attention of the design team for the project and incorporated into the plans and specifications, and that the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

The recommendations contained in this report are preliminary until verified during construction by representatives of our firm. Changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. Additionally, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated partially or wholly by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.

Our professional services were performed, our findings obtained, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices used in the site area at this time. No warranty is provided, express or implied.

9.0 REFERENCES

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4. California Department of Transportation, *Highway Design Manual, Chapter 600*, updated November 20, 2017.
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13. Lew, M., Sitar, N., Al A., Linda, P., Mehran, H., and Martin, B., *Seismic Earth Pressures on Deep Building Basements*, SEAOC 2010 Convention Proceedings, 2010.
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15. United States Geological Survey, Unified Hazard Tool https://earthquake.usgs.gov/hazards/interactive/.
16. Unpublished reports, aerial photographs, and maps on file with Geocon.



GEOCON
CONSULTANTS, INC.
3160 GOLD VALLEY DR - SUITE 800 - RANCHO CORDOVA, CA 95742
PHONE 916.852.9118 - FAX 916.852.9132

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Sacramento,
California

VICINITY MAP

S1145-05-21	March 2023	Figure 1

GEOCON 2/16/2023 USER:Brown,M PATH:C:\Users\Brown,M\OneDrive - Geocon, Inc\GIS_Graphics Projects\S1145-05-21_DelPasoPark_GI\01_Report\Maps\Figure 1_Vicinity_Map.mxd



Legend

B5 ⊗ Approximate Boring Location

N

0 100

Scale in Feet

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PHONE 916.852.9118 - FAX 916.852.9132

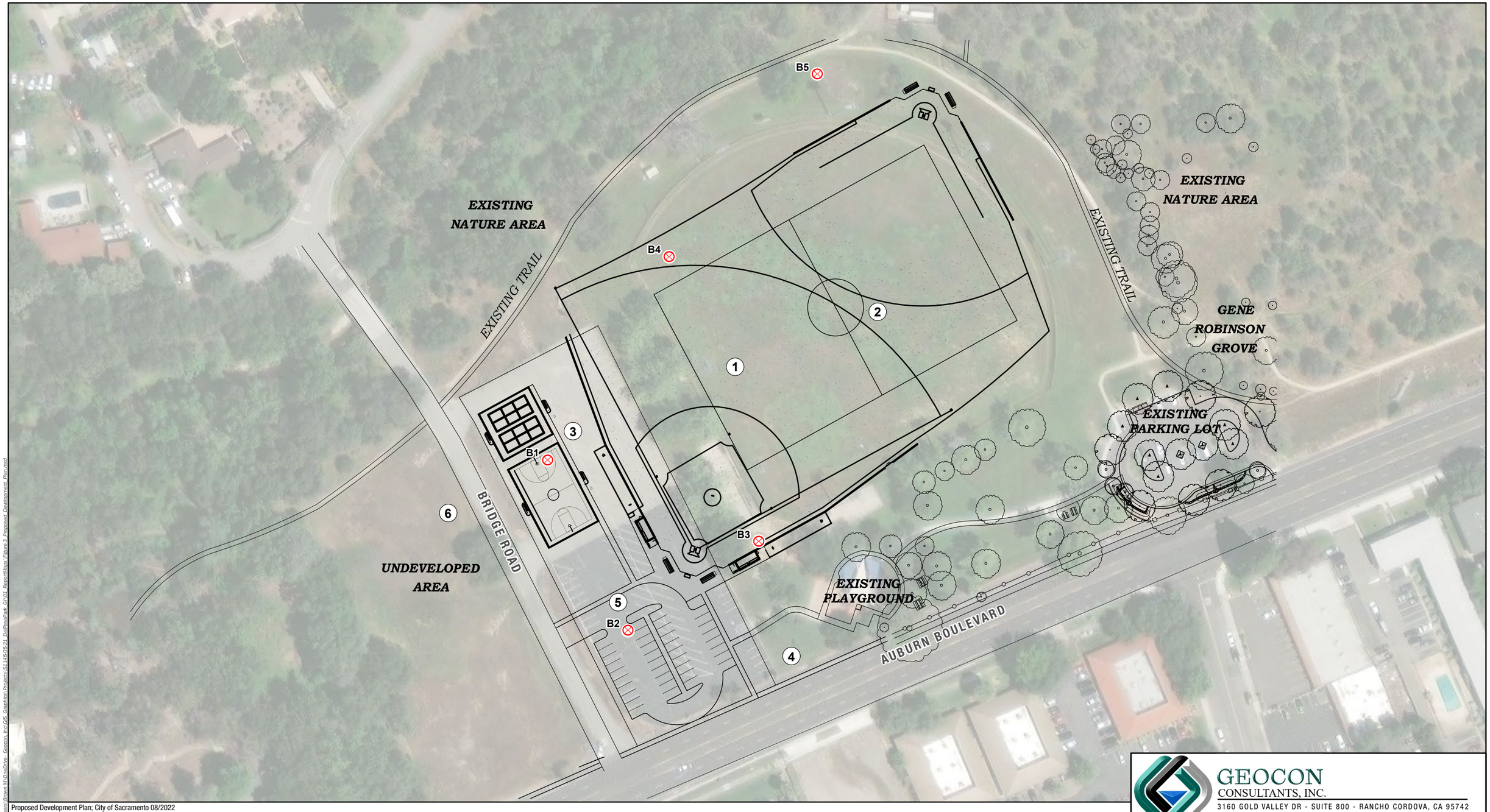
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SITE PLAN

S1145-05-21	March 2023	Figure 2

GEOCON 2/15/2023 USER:Brown,M DWG:C:\Users\Brown.MGeo\Drive - Geocon, Inc\GIS_Graphics Projects\S1145-05-21_DelPasoPark_GI-01_ReportMaps\Figure 2_Site_Plan.mxd



Proposed Development Plan; City of Sacramento 08/2022

Legend

B5 ⊗ Approximate Boring Location

1. New Youth Basebal 300' and 2nd Ballfield
2. New Soccer Field (210' x 300')
3. New Basketball and 2 Pickleball Courts
4. New Walkway to Science Center
5. Parking Lot (36 Spaces)
6. Regrade and Hydroseed

N

0 100

Scale in Feet

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CONSULTANTS, INC.
3160 GOLD VALLEY DR - SUITE 800 - RANCHO CORDOVA, CA 95742
PHONE 916.852.9118 - FAX 916.852.9132

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PROPOSED DEVELOPMENT PLAN

S1145-05-21	March 2023	Figure 3

GEOCON 3/20/2023 - USER: Brian M. BATH - C:\Users\Brian M.\OneDrive - Geocon, Inc\GIS_Graphics\Projects\S1145-05-21_DelPasoPark_GI\01_Report\Maps\Figure 3_Proposed_Development_Plan.mxd

APPENDIX A

APPENDIX A

FIELD EXPLORATION

We performed our geotechnical field exploration on February 6,2023. Our field exploration program consisted of performing five exploratory borings (B1 through B5). The approximate locations of our borings are shown on the Site Plan, Figure 2 and the Proposed Development Plan, Figure 3.

Exploratory borings were performed using a truck-mounted CME55 drill rig equipped with 6-inch outside diameter (OD) solid-flight augers. Soil sampling was performed using an automatic 140-pound hammer with a 30-inch drop. We obtained samples using a 3-inch OD split-spoon (California Modified) sampler or a 2-inch OD Standard Penetration Test (SPT) sampler. We recorded the number of blows required to drive the sampler the last 12 inches (or portion thereof) of the 18-inch sampling interval on the boring logs. Upon completion, the borings were backfilled with soil cuttings.

We visually examined, classified, and logged the subsurface conditions in the exploratory borings in general accordance with the American Society for Testing and Materials (ASTM) Practice for Description and Identification of Soils (Visual-Manual Procedure D2488-90). This system uses the Unified Soil Classification System (USCS) for soil designations. The logs depict soil and geologic conditions encountered and depths at which we obtained samples. The logs also include our interpretation of the conditions between sampling intervals. Therefore, the logs contain both observed and interpreted data. We determined the lines designating the interface between soil materials on the logs using visual observations, drill rig penetration rates, excavation characteristics, and other factors. The transition between materials may be abrupt or gradual. Where applicable, we revised the field logs based on subsequent laboratory testing.

UNIFIED SOIL CLASSIFICATION

MAJOR DIVISIONS					TYPICAL NAMES
COARSE-GRAINED SOILS (MORE THAN HALF IS COARSER THAN NO. 200 SIEVE)	GRAVELS (MORE THAN HALF COARSE FRACTION IS LARGER THAN NO.4 SIEVE SIZE)	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW		WELL GRADED GRAVELS WITH OR WITHOUT SAND, LITTLE OR NO FINES
			GP		POORLY GRADED GRAVELS WITH OR WITHOUT SAND, LITTLE OR NO FINES
		GRAVELS WITH OVER 12% FINES	GM		SILTY GRAVELS, SILTY GRAVELS WITH SAND
			GC		CLAYEY GRAVELS, CLAYEY GRAVELS WITH SAND
	SANDS (MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO.4 SIEVE SIZE)	CLEAN SANDS WITH LITTLE OR NO FINES	SW		WELL GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
			SP		POORLY GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
		SANDS WITH OVER 12% FINES	SM		SILTY SANDS WITH OR WITHOUT GRAVEL
			SC		CLAYEY SANDS WITH OR WITHOUT GRAVEL
FINE-GRAINED SOILS (MORE THAN HALF IS FINER THAN NO. 200 SIEVE)	SILTS AND CLAYS (LIQUID LIMIT 50% OR LESS)		ML		INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTS WITH SANDS AND GRAVELS
			CL		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, CLAYS WITH SANDS AND GRAVELS, LEAN CLAYS
			OL		ORGANIC SILTS OR CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS (LIQUID LIMIT GREATER THAN 50%)		MH		INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS, FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH		INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH		ORGANIC CLAYS OR CLAYS OF MEDIUM TO HIGH PLASTICITY
	HIGHLY ORGANIC SOILS		PT		PEAT AND OTHER HIGHLY ORGANIC SOILS

BORING/TRENCH LOG LEGEND

- No Recovery
- Shelby Tube Sample
- Bulk Sample
- SPT Sample
- Modified California Sample
- Groundwater Level (At Completion)
- Groundwater Level (Seepage)

PENETRATION RESISTANCE

SAND AND GRAVEL			SILT AND CLAY			
RELATIVE DENSITY	BLOWS PER FOOT (SPT)*	BLOWS PER FOOT (MOD-CAL)*	CONSISTENCY	BLOWS PER FOOT (SPT)*	BLOWS PER FOOT (MOD-CAL)*	COMPRESSIVE STRENGTH (tsf)
VERY LOOSE	0 - 4	0 - 6	VERY SOFT	0 - 2	0 - 3	0 - 0.25
LOOSE	5 - 10	7 - 16	SOFT	3 - 4	4 - 6	0.25 - 0.50
MEDIUM DENSE	11 - 30	17 - 48	MEDIUM STIFF	5 - 8	7 - 13	0.50 - 1.0
DENSE	31 - 50	49 - 79	STIFF	9 - 15	14 - 24	1.0 - 2.0
VERY DENSE	OVER 50	OVER 79	VERY STIFF	16 - 30	25 - 48	2.0 - 4.0
			HARD	OVER 30	OVER 48	OVER 4.0

*NUMBER OF BLOWS OF 140 LB HAMMER FALLING 30 INCHES TO DRIVE LAST 12 INCHES OF AN 18-INCH DRIVE

MOISTURE DESCRIPTIONS

FIELD TEST	APPROX. DEGREE OF SATURATION, S (%)	DESCRIPTION
NO INDICATION OF MOISTURE; DRY TO THE TOUCH	S<25	DRY
SLIGHT INDICATION OF MOISTURE	25≤S<50	DAMP
INDICATION OF MOISTURE; NO VISIBLE WATER	50≤S<75	MOIST
MINOR VISIBLE FREE WATER	75≤S<100	WET
VISIBLE FREE WATER	100	SATURATED

QUANTITY DESCRIPTIONS

APPROX. ESTIMATED PERCENT	DESCRIPTION
<5%	TRACE
5 - 10%	FEW
11 - 25%	LITTLE
26 - 50%	SOME
>50%	MOSTLY

GRAVEL/COBBLE/BOULDER DESCRIPTIONS

CRITERIA	DESCRIPTION
PASS THROUGH A 3-INCH SIEVE AND BE RETAINED ON A NO. 4 SIEVE (#4 TO 3")	GRAVEL
PASS A 12-INCH SQUARE OPENING AND BE RETAINED ON A 3-INCH SIEVE (3"-12")	COBBLE
WILL NOT PASS A 12-INCH SQUARE OPENING (>12")	BOULDER

LABORATORY TEST KEY

CP – COMPACTION CURVE (ASTM D1557)
CR – CORROSION ANALYSIS (CTM 422, 643, 417)
DS – DIRECT SHEAR (ASTM D3080)
EI – EXPANSION INDEX (ASTM D4829)
GSA – GRAIN SIZE ANALYSIS (ASTM D422)
MC – MOISTURE CONTENT (ASTM D2216)
PI – PLASTICITY INDEX (ASTM D4318)
R – R-VALUE (CTM 301)
SE – SAND EQUIVALENT (CTM 217)
TXCU – CONSOLIDATED UNDRAINED TRIAXIAL (ASTM D4767)
TXUU – UNCONSOLIDATED UNDRAINED TRIAXIAL (ASTM D2850)
UC – UNCONFINED COMPRESSIVE STRENGTH (ASTM D2166)

BEDDING SPACING DESCRIPTIONS

THICKNESS/SPACING	DESCRIPTOR
GREATER THAN 10 FEET	MASSIVE
3 TO 10 FEET	VERY THICKLY BEDDED
1 TO 3 FEET	THICKLY BEDDED
3 ⅝-INCH TO 1 FOOT	MODERATELY BEDDED
1 ⅛-INCH TO 3 ⅝-INCH	THINLY BEDDED
⅜-INCH TO 1 ⅛-INCH	VERY THINLY BEDDED
LESS THAN ⅜-INCH	LAMINATED

STRUCTURE DESCRIPTIONS

CRITERIA	DESCRIPTION
ALTERNATING LAYERS OF VARYING MATERIAL OR COLOR WITH LAYERS AT LEAST ¼-INCH THICK	STRATIFIED
ALTERNATING LAYERS OF VARYING MATERIAL OR COLOR WITH LAYERS LESS THAN ¼-INCH THICK	LAMINATED
BREAKS ALONG DEFINITE PLANES OF FRACTURE WITH LITTLE RESISTANCE TO FRACTURING	FISSURED
FRACTURE PLANES APPEAR POLISHED OR GLOSSY, SOMETIMES STRIATED	SLICKENSIDED
COHESIVE SOIL THAT CAN BE BROKEN DOWN INTO SMALLER ANGULAR LUMPS WHICH RESIST FURTHER BREAKDOWN	BLOCKY
INCLUSION OF SMALL POCKETS OF DIFFERENT SOIL, SUCH AS SMALL LENSES OF SAND SCATTERED THROUGH A MASS OF CLAY	LENSED
SAME COLOR AND MATERIAL THROUGHOUT	HOMOGENOUS

CEMENTATION/INDURATION DESCRIPTIONS

FIELD TEST	DESCRIPTION
CRUMBLES OR BREAKS WITH HANDLING OR LITTLE FINGER PRESSURE	WEAKLY CEMENTED/INDURATED
CRUMBLES OR BREAKS WITH CONSIDERABLE FINGER PRESSURE	MODERATELY CEMENTED/INDURATED
WILL NOT CRUMBLE OR BREAK WITH FINGER PRESSURE	STRONGLY CEMENTED/INDURATED

IGNEOUS/METAMORPHIC ROCK STRENGTH DESCRIPTIONS

FIELD TEST	DESCRIPTION
MATERIAL CRUMBLES WITH BARE HAND	WEAK
MATERIAL CRUMBLES UNDER BLOWS FROM GEOLOGY HAMMER	MODERATELY WEAK
½-INCH INDENTATIONS WITH SHARP END FROM GEOLOGY HAMMER	MODERATELY STRONG
HAND-HELD SPECIMEN CAN BE BROKEN WITH **ONE** BLOW FROM GEOLOGY HAMMER	STRONG
HAND-HELD SPECIMEN CAN BE BROKEN WITH **COUPLE** BLOWS FROM GEOLOGY HAMMER	VERY STRONG
HAND-HELD SPECIMEN CAN BE BROKEN WITH **MANY** BLOWS FROM GEOLOGY HAMMER	EXTREMELY STRONG

IGNEOUS/METAMORPHIC ROCK WEATHERING DESCRIPTIONS

DEGREE OF DECOMPOSITION	FIELD RECOGNITION	ENGINEERING PROPERTIES
SOIL	DISCOLORED, CHANGED TO SOIL, FABRIC DESTROYED	EASY TO DIG
COMPLETELY WEATHERED	DISCOLORED, CHANGED TO SOIL, FABRIC MAINLY PRESERVED	EXCAVATED BY HAND OR RIPPING (Saprolite)
HIGHLY WEATHERED	DISCOLORED, HIGHLY FRACTURED, FABRIC ALTERED AROUND FRACTURES	EXCAVATED BY HAND OR RIPPING, WITH SLIGHT DIFFICULTY
MODERATELY WEATHERED	DISCOLORED, FRACTURES, INTACT ROCK-NOTICEABLY WEAKER THAN FRESH ROCK	EXCAVATED WITH DIFFICULTY WITHOUT EXPLOSIVES
SLIGHTLY WEATHERED	MAY BE DISCOLORED, SOME FRACTURES, INTACT ROCK-NOT NOTICEABLY WEAKER THAN FRESH ROCK	REQUIRES EXPLOSIVES FOR EXCAVATION, WITH PERMEABLE JOINTS AND FRACTURES
FRESH	NO DISCOLORATION, OR LOSS OF STRENGTH	REQUIRES EXPLOSIVES

IGNEOUS/METAMORPHIC ROCK JOINT/FRACTURE DESCRIPTIONS

FIELD TEST	DESCRIPTION
NO OBSERVED FRACTURES	UNFRACTURED/UNJOINTED
MAJORITY OF JOINTS/FRACTURES SPACED AT 1 TO 3 FOOT INTERVALS	SLIGHTLY FRACTURED/JOINTED
MAJORITY OF JOINTS/FRACTURES SPACED AT 4-INCH TO 1 FOOT INTERVALS	MODERATELY FRACTURED/JOINTED
MAJORITY OF JOINTS/FRACTURES SPACED AT 1-INCH TO 4-INCH INTERVALS WITH SCATTERED FRAGMENTED INTERVALS	INTENSELY FRACTURED/JOINTED
MAJORITY OF JOINTS/FRACTURES SPACED AT LESS THAN 1-INCH INTERVALS; MOSTLY RECOVERED AS CHIPS AND FRAGMENTS	VERY INTENSELY FRACTURED/JOINTED

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PHONE 916.852.9118 – FAX 916.852.9132

KEY TO LOGS | Figure A1

PROJECT NO. **S1145-05-21** PROJECT NAME **Del Paso Park - Renfree Field**

BORING B1

ELEV. (MSL.) _____ DATE COMPLETED **2/6/2023**

ENG./GEO. **T. Henderson** DRILLER **V&W Drilling**

EQUIPMENT **CME 55 Truck-mounted Drill w/ 6" SFA** HAMMER TYPE **Automatic | 140 lb.**

DEPTH IN FEET	SAMPLE INTERVAL & RECOVERY	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)	ADDITIONAL TESTS
0					MATERIAL DESCRIPTION				
	B1-BULK			SM	**ASPHALT CONCRETE (AC)** 2.5 inches				CP
1					**ALLUVIUM** Very loose, moist, brown, Silty SAND, trace clay				
	B1-1.5						106.7	14.7	
2	B1-2					4			
3					- loose				
	B1-3.5						108.8	14.7	
4	B1-4					8			
5	B1-5				- medium dense				
	B1-5.5								
6	B1-6					17			
					BORING TERMINATED AT 6.5 FEET NO GROUNDWATER ENCOUNTERED BACKFILLED WITH SOIL CUTTINGS CAPPED WITH RAPID SET CONCRETE				

Figure A2, Log of Boring, page 1 of 1

IN PROGRESS S1145-05-21 DEL PASO PARK.GPJ 03/20/23

GEOCON

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL ◧ ... STANDARD PENETRATION TEST ■ ... DRIVE SAMPLE (UNDISTURBED)

⊠ ... DISTURBED OR BAG SAMPLE ◪ ... CHUNK SAMPLE ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. **S1145-05-21** PROJECT NAME **Del Paso Park - Renfree Field**

BORING B2

ELEV. (MSL.) _____ DATE COMPLETED **2/6/2023**

ENG./GEO. **T. Henderson** DRILLER **V&W Drilling**

EQUIPMENT **CME 55 Truck-mounted Drill w/ 6" SFA** HAMMER TYPE **Automatic | 140 lb.**

DEPTH IN FEET	SAMPLE INTERVAL & RECOVERY	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)	ADDITIONAL TESTS
0									
	B2-BULK			CL-ML	**ASPHALT CONCRETE (AC)** 3 inches				PI, GSA, R
1					**ALLUVIUM** Soft, moist, brown, Sandy SILTY CLAY				
	B2-1.5								
2	B2-2					6	113.4	16.3	
					- dark brown				
3				CL	Hard, moist, brown, Lean CLAY, PP>4.5 tsf				
	B2-3.5						97.1	25.3	
4	B2-4				- hardpan layer	76/10"			
5									
	B2-5.5			SC	Dense, moist, yellowish brown, Clayey SAND				
6	B2-6					64			
					BORING TERMINATED AT 6.5 FEET NO GROUNDWATER ENCOUNTERED BACKFILLED WITH SOIL CUTTINGS CAPPED WITH RAPID SET CONCRETE				

Figure A3, Log of Boring, page 1 of 1

IN PROGRESS S1145-05-21 DEL PASO PARK.GPJ 03/20/23

GEOCON

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. **S1145-05-21** PROJECT NAME **Del Paso Park - Renfree Field**

BORING B3

ELEV. (MSL.) _____ DATE COMPLETED **2/6/2023**

ENG./GEO. **T. Henderson** DRILLER **V&W Drilling**

EQUIPMENT **CME 55 Truck-mounted Drill w/ 7" HSA** HAMMER TYPE **Automatic | 140 lb.**

DEPTH IN FEET	SAMPLE INTERVAL & RECOVERY	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)	ADDITIONAL TESTS
0	B3-BULK			SC	**ALLUVIUM** Medium dense, moist, brown and gray, Clayey SAND, few gravel				PI, GSA, EI, CR
1									
2	B3-1.5 B3-2					19		9.4	
3				CL	Very stiff, moist, brown, Sandy Lean CLAY, PP=3.5 tsf				
4	B3-3.5 B3-4						117.8	14.8	
5				SC	Medium dense, moist, brown, Clayey SAND	25			
6	B3-5.5 B3-6			CL	Hard, moist, brown, Sandy Lean CLAY, PP>4.5 tsf	54	116.7	14.9	
7									
8	B3-8			SC	Dense, moist, reddish grayish brown, Clayey SAND				
9	B3-8.5					61			
10	B3-10				- damp	50/5"			
11									
12									
13									
14				SP	Medium dense, damp, grayish tan, Poorly Graded SAND				
15	B3-15 B3-15.5								
16	B3-16					40			
					BORING TERMINATED AT 16.5 FEET NO GROUNDWATER ENCOUNTERED BACKFILLED WITH SOIL CUTTINGS				

Figure A4, Log of Boring, page 1 of 1

IN PROGRESS S1145-05-21 DEL PASO PARK.GPJ 03/20/23

GEOCON

SAMPLE SYMBOLS
- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. **S1145-05-21** PROJECT NAME **Del Paso Park - Renfree Field**

BORING B4

ELEV. (MSL.) _____ DATE COMPLETED **2/6/2023**

ENG./GEO. **T. Henderson** DRILLER **V&W Drilling**

EQUIPMENT **CME 55 Truck-mounted Drill w/ 6" SFA** HAMMER TYPE **Automatic | 140 lb.**

DEPTH IN FEET	SAMPLE INTERVAL & RECOVERY	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)	ADDITIONAL TESTS
0	B4-BULK			SM	**ALLUVIUM** Very loose, moist, brown, Silty SAND				
1	B4-1							12.3	
2						5			
3									
4	B4-4					17	111.0	15.7	
5	B4-5			SP	Medium dense, moist to wet, yellowish brown, Poorly Graded SAND				
	B4-5.5								
6	B4-6			SC	Medium dense, moist, reddish brown, Clayey SAND, hardpan layer	42			
					BORING TERMINATED AT 6.5 FEET NO GROUNDWATER ENCOUNTERED BACKFILLED WITH SOIL CUTTINGS				

Figure A5, Log of Boring, page 1 of 1

IN PROGRESS S1145-05-21 DEL PASO PARK.GPJ 03/20/23

GEOCON

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL ◧ ... STANDARD PENETRATION TEST ■ ... DRIVE SAMPLE (UNDISTURBED)

⊠ ... DISTURBED OR BAG SAMPLE ◪ ... CHUNK SAMPLE ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. **S1145-05-21** PROJECT NAME **Del Paso Park - Renfree Field**

BORING B5

ELEV. (MSL.) _____ DATE COMPLETED **2/6/2023**

ENG./GEO. **T. Henderson** DRILLER **V&W Drilling**

EQUIPMENT **CME 55 Truck-mounted Drill w/ 7" HSA** HAMMER TYPE **Automatic | 140 lb.**

DEPTH IN FEET	SAMPLE INTERVAL & RECOVERY	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT.)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)	ADDITIONAL TESTS
0	B5-BULK			SM	**ALLUVIUM** Very loose, moist, dark brown, Silty SAND				PI, GSA
1									
2	B5-1.5 B5-2					5	113.1	14.5	
3					- loose, moist to wet, brown				
4	B5-3.5 B5-4				- with some clay	7	109.4	19.0	
5									
6	B5-5.5 B5-6				- medium dense, wet	19	108.8	16.5	
7									
8	B5-8			CL-ML	Hard, moist, brownish gray with orange mottling, Silty CLAY, PP>4.5 tsf				
9	B5-8.5					97/9"			
10	B5-10								
11	B5-10.5			SC	Very dense, damp, yellowish brown, Clayey SAND	70/12"			
12									
13									
14				SP	Medium dense, damp, grayish tan, Poorly Graded SAND				
15	B5-15								
16	B5-15.5 B5-16					39			
					BORING TERMINATED AT 16.5 FEET NO GROUNDWATER ENCOUNTERED BACKFILLED WITH SOIL CUTTINGS				

Figure A6, Log of Boring, page 1 of 1

IN PROGRESS S1145-05-21 DEL PASO PARK.GPJ 03/20/23

GEOCON

SAMPLE SYMBOLS
- ☐ ... SAMPLING UNSUCCESSFUL
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◧ ... STANDARD PENETRATION TEST
- ◥ ... CHUNK SAMPLE
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

APPENDIX B

APPENDIX B

LABORATORY TESTING PROGRAM

Laboratory tests were performed in accordance with generally accepted test methods of the American Society for Testing and Materials (ASTM) or other suggested procedures. Selected soil samples were tested for their in-place dry density and moisture content, plasticity characteristics, fines content, corrosion potential, expansion potential, pavement support characteristics and moisture-density relationship. The results of the laboratory tests are presented on the following pages.

TABLE B1
EXPANSION INDEX TEST RESULTS
ASTM D4829

Sample Number	Depth (feet)	Moisture Content (%)		Expansion Index	Classification*
		Before Test	After Test		
B3-Bulk	0 – 5	9.0	16.2	16	Very Low

**Expansion Potential Classification per ASTM D4829*

TABLE B2
R-VALUE TEST RESULTS
ASTM D2844

Sample Number	Depth (feet)	Average Dry Density (pcf)	Average Moisture Content (%)	R-Value
B2-Bulk	0 – 5	121.1	12.5	12

Sample ID	Depth (feet)	Liquid Limit	Plastic Limit	Plasticity Index	Expansion Index	%<#200 Sieve	Water Content (%)	Dry Density (pcf)
B1-1.5	1.5						14.7	106.7
B1-3.5	3.5						14.7	108.8
B2-Bulk	0-5	18	14	4		57.9		
B2-2	2						16.3	113.4
B2-3.5	3.5						25.3	97.1
B3-Bulk	0-5	25	15	10	16	49.3		
B3-1.5	1.5						9.4	
B3-3.5	3.5						14.8	117.8
B3-6	6						14.9	116.7
B4-1	1						12.3	
B4-4	4						15.7	111.0
B5-Bulk	0-5	18	17	1		38.6		
B5-2	2						14.5	113.1
B5-4	4						19.0	109.4
B5-6	6						16.5	108.8

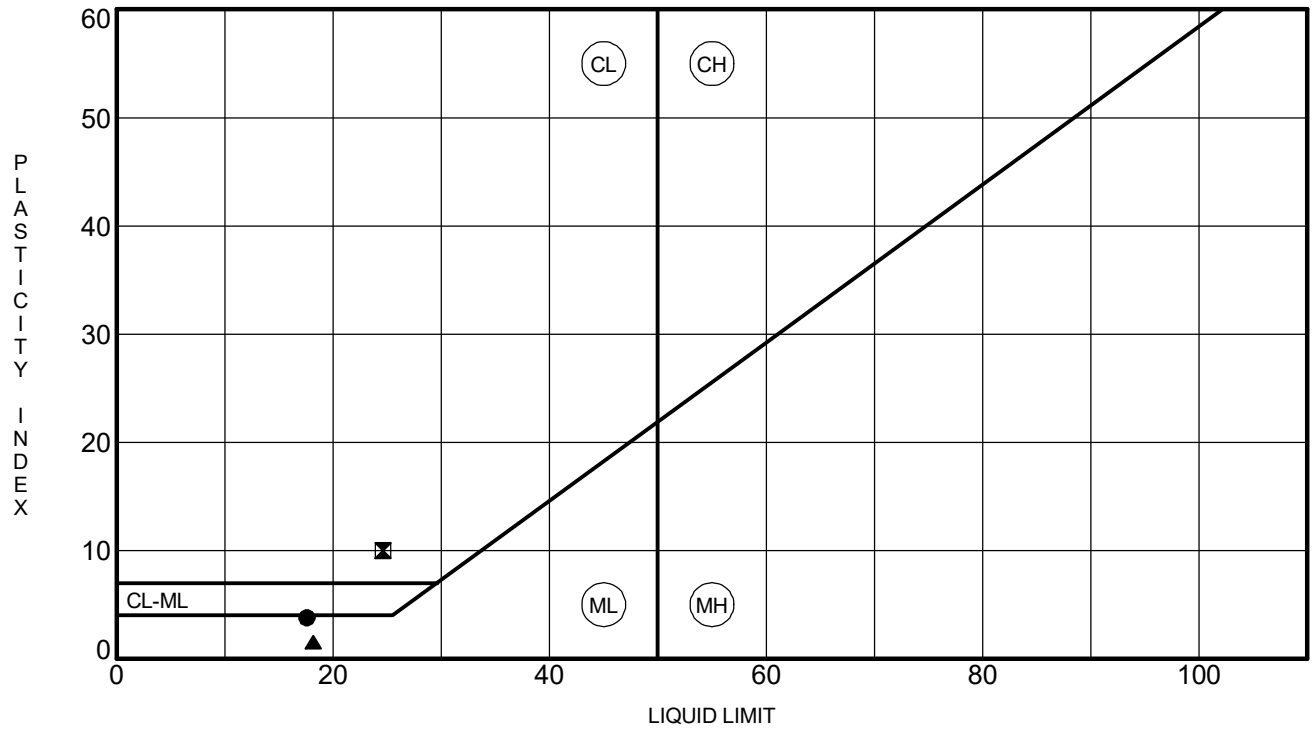
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Rancho Cordova, CA 95742
Telephone: 916-852-9118

Summary of Laboratory Results

Project: Del Paso Park - Renfree Field
Location: Sacramento, California
Number: S1145-05-21
Figure: B1

US LAB SUMMARY GEOTECH 2 WITH EI COLUMN S1145-05-21 DEL PASO PARK.GPJ US_LAB.GDT 3/20/23



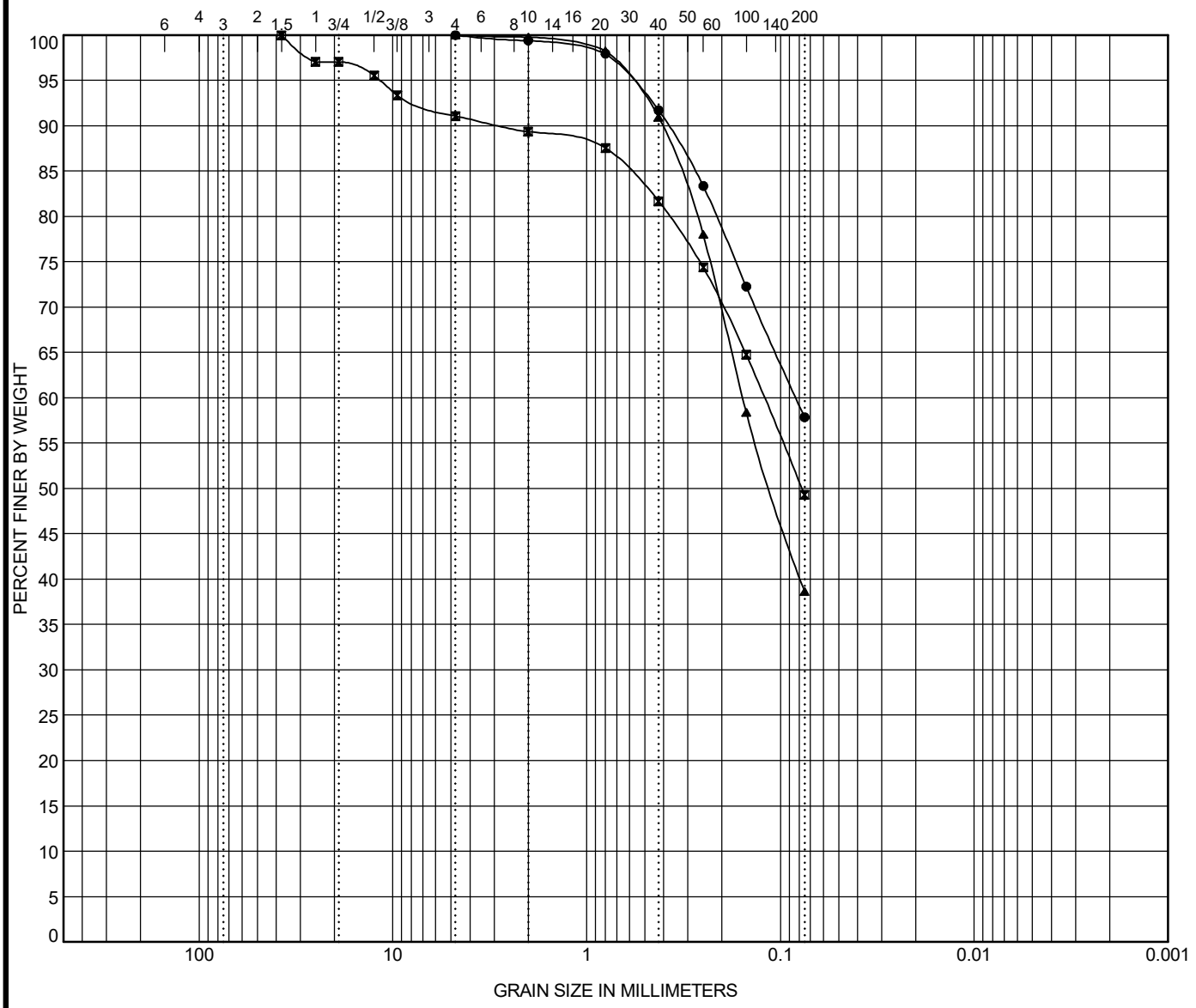
	Sample No.	Liquid Limit	Plastic Limit	Plasticity Index	% Pass #200 Sieve	Unified Soil Classification Description	Preparation Method
●	**B2-Bulk**	**18**	**14**	**4**	**57.9**	**SANDY SILTY CLAY(CL-ML)**	**dry**
⊠	**B3-Bulk**	**25**	**15**	**10**	**49.3**	**CLAYEY SAND(SC)**	**dry**
▲	**B5-Bulk**	**18**	**17**	**1**	**38.6**	**SILTY SAND(SM)**	**dry**

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Rancho Cordova, CA 95742
Telephone: 858-558-6900

ATTERBERG LIMITS (ASTM D4318)

Project: Del Paso Park - Renfree Field
Location: Sacramento, California
Number: S1145-05-21
Figure: B2 Date:

PI COPY 2 S1145-05-21 DEL PASO PARK.GPJ US LAB.GDT 3/20/23



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Sample No.	Classification	LL	PL	PI	Cc	Cu
●	**B2-Bulk**	**SANDY SILTY CLAY(CL-ML)**	**18**	**14**	**4**		
⊠	**B3-Bulk**	**CLAYEY SAND(SC)**	**25**	**15**	**10**		
▲	**B5-Bulk**	**SILTY SAND(SM)**	**18**	**17**	**1**		

	Sample No.	D100	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	**B2-Bulk**	**4.75**				**0.0**	**42.1**	**57.9**	
⊠	**B3-Bulk**	**37.5**	**0.077**			**8.9**	**41.8**	**49.3**	
▲	**B5-Bulk**	**4.75**	**0.112**			**0.0**	**61.4**	**38.6**	

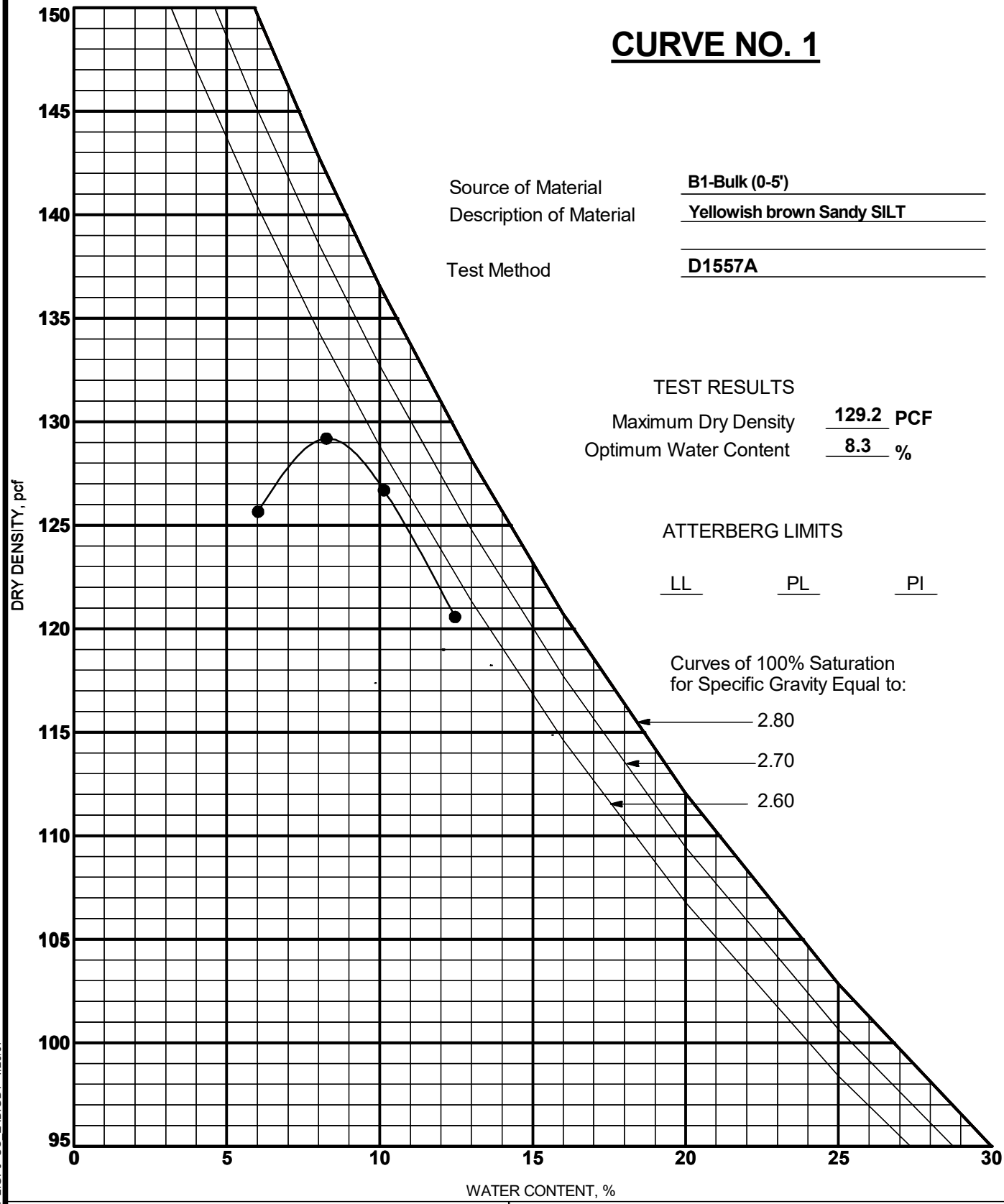
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Rancho Cordova, CA 95742
Telephone: 916-852-9118

GRAIN SIZE DISTRIBUTION (ASTM D422, D6913)

Project: Del Paso Park - Renfree Field
Location: Sacramento, California
Number: S1145-05-21
Figure: B3

GRAIN SIZE COPY 2 S1145-05-21 DEL PASO PARK.GPJ US LAB.GDT 3/20/23

CURVE NO. 1



Source of Material: **B1-Bulk (0-5')**

Description of Material: **Yellowish brown Sandy SILT**

Test Method: **D1557A**

TEST RESULTS

Maximum Dry Density: **129.2** **PCF**

Optimum Water Content: **8.3** **%**

ATTERBERG LIMITS

LL PL PI

Curves of 100% Saturation for Specific Gravity Equal to:

2.80

2.70

2.60

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Fax: (916) 852-9132

MOISTURE-DENSITY RELATIONSHIP

Project: Del Paso Park - Renfree Field

Location: Sacramento, California

Number: S1145-05-21

Figure: B4

US COMPACTION COPY 2.GPJ US LAB.GDT 1/26/07

APPENDIX C

APPENDIX C
LANDSCAPE SOIL SUITABILITY TEST RESULTS
SUNLAND ANALYTICAL LABORATORY

Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 03/01/2023
Date Submitted 02/23/2023

To: Mark Repking
Geocon
3160 Gold Valley Dr. #800
Rancho Cordova, CA 95742

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager RH

The reported analysis was requested for the following:
Location : S1145-05-21 DEL PASO Site ID : B4-BULK.
Thank you for your business.

* For future reference to this analysis please use SUN # 89087-185029.

SOIL ANALYSIS

Saturation Percent (SP)	31		Soil Texture Sandy Loam
pH	6.64		
E.C.	0.22	mmho/cm	
Tot.Dissolved Salts	140.8	ppm	
Infiltration Rate (0% Slope)	0.75	in/hr	
% Organic Matter	3.1		
C.E.C.	4.6	meq/100g	
Sodium Absorption Ratio (SAR)	1.7		
Exchangable Sodium Percent (ESP)	1.3		
Gypsum Req. (CaSO4*2H2O)	None Required		
est. Nitrogen Release	1.4	#/1000 sq.ft.	

Nitrate	15.30	ppm	********
Phosphorus	7.55	ppm	*******
Potassium	61.63	ppm	**********
Sulfur	8.99	ppm	***********
Chloride	5.43	ppm	*******
Carbonates	25.58	ppm	************
Sodium	13.33	ppm	
Calcium	570.75	ppm	**************
Magnesium	182.15	ppm	********
Boron	0.15	ppm	****
Copper	0.72	ppm	******
Iron	38.90	ppm	******************
Manganese	13.76	ppm	******************
Zinc	0.85	ppm	*************

Very Low	Low	Adequate	Excessive

Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

DATE 03/01/2023
SUN NUMBER 185029

Information requested by:
Mark Repking
Geocon

Information for:
S1145-05-21 DEL PASO
Sample ID: B4-BULK

SOIL RECOMMENDATIONS FOR LANDSCAPE GARDENING

SOIL pH (Acidity and Alkalinity)

The pH of this sample indicates the soil is in a range for normal growth of most plants. No modification is required.

DISSOLVED SALTS (Indicated by E.C. & TDS)

These conditions are in the normal range for plant growth.

SOIL TEXTURE AND RATE OF WATER INFILTRATION

The infiltration rate for all soil textures decreases with increasing ground slope. At 0 to 4%, 5 to 8%, 9 to 12%, 13 to 16% and above 16% the infiltration rate of this sample decreases from 0.75 to 0.60, 0.45, 0.30, 0.19, respectively. Infiltration rate also decreases with percent of ground cover and by compaction.

WATER PENETRATION OF SOIL DUE TO CHEMICAL CHARACTERISTICS

When exchangable Sodium increases in the soil, water penetration decreases. Based on SAR and ESP values this sample has no penetration problem due to soil Sodium. No Gypsum required.

ORGANIC MATTER

Organic matter provides a slow nitrogen release and aids water retention. This sample has a moderate Organic Matter content.
To maintain moisture and provide sustained nitrogen release a level of 10% organic matter is recommended. This can be accomplished by adding 3 yards per 1000 sq.ft. of ground fir bark that is approximately 75% organic matter (i.e. typically found in ground fir bark which also has naturally low salt and boron concentrations). In California, the MWELO ordenance requires a fixed application of four yards of COMPOST if the soil organic matter is less than 6%. However, of significant concern when applying COMPOST is the potential for the compost to have high salt, high boron content, high C to N ratio and having a higly variable pH (very high to very low). All of these COMPOST characteristics can have very negative affect on plant growth. Take care by having the compost analyzed or by seeing a recent analysis of the compost to be used.

Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

DATE 03/01/2023
SUN NUMBER 185029

Information requested by:
Mark Repking
Geocon

Information for:
S1145-05-21 DEL PASO
Sample ID: B4-BULK

SOIL RECOMMENDATIONS FOR LANDSCAPE GARDENING

SOIL BORON

Boron concenrations are in a range allowing normal plant growth.

SOIL MICRONUTRIENTS

Micronutrients, Copper, Iron, Manganese and Zinc, in soil are present in small amounts. However, they play a necessary role in plant metabolism. Without appropriate amounts plants will not thrive. Apply the following per 1000/ sq.ft. Do not mix micronutrients during application (use a separate application for each element indicated).

Because copper, manganese and zinc are in very small amounts, dissolve (each) in 2 gallons of water and use a sprayer to obtain an even application.
Apply 0.2 # Copper Sulfate, 0.5 # Zinc Sulfate and water.

SOIL MACRONUTRIENTS : NITROGEN-PHOSPHORUS-POTASSIUM (N-P-K)

GENERAL N-P-K RECOMMENDATION

Use ONE of these NPK preparations for the first fertilizer application.

Standard NPK Fertilizer Preparations	6-24-24	5-20-10	16-16-16	0-10-10	28-3-4	21-0-0	Customer Choice None
#/1000 sq.ft.	10	17	N/A	N/A	N/A	N/A	**

GRASS OR SOD PREPARATION

Till in organic matter, N,P,K and micro nutrients in addition to any lime gypsum or sulfur as directed above. Smooth soil surface and follow seed or sod producers direction for moisture and product application.

TREES AND SHRUBS

Excavate holes for planting shrubs and trees to at least twice the volume of the container. Prepare backfill for tree and shrub planting holes by mixing three parts of native soil (or imported top soil) with one part organic amendment (preferably nitrogen and iron fortified) and 2.5 pounds of 6-24-24 per yard of mix. For extended fertilization, place slow release fertilizer tablets in each hole per manufacturer's instructions. If 6-24-24 was not directly added to backfill mix, during backfill apply uniformly 1/2 oz of 6-24-24 per gallon containers, 2.5 oz per 5 gallons, 6 oz per 24 inch boxes.

Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

DATE 03/01/2023
SUN NUMBER 185029

Information requested by:
Mark Repking
Geocon

Information for:
S1145-05-21 DEL PASO
Sample ID: B4-BULK

SOIL RECOMMENDATIONS FOR LANDSCAPE GARDENING

Summary and Suggested Sequence of Soil Improvements (#/1000 Sq.Ft.)

Organic Amendment	3	Yd./1000 Sq.Ft.	Bulk organic amendment (nitrified). or in Calif. if Org.Mat. less than 6% use 4 yd compost.
N-P-K Fertilizer	See above chart		
Micro Nutrients			
Copper	0.2	#	Copper sulfate
Zinc	0.5	#	Zinc Sulfate
Sulfate-Sulfur	2	#	Ammonium Sulfate

Maintenance Fertilization

Apply 5 pounds of Ammonium sulfate (21-0-0) per 1000 sq.ft.every month until plants become established. After established, apply 28-3-4 (or similar preparation) to provide desired growth rate and color.

SUNLAND ANALYTICAL LAB
11419 Sunrise Gold Cr., Ste.10
Rancho Cordova, CA 95742
(916)852-8557

INVOICE

Inv.No. 109087

Geocon
3160 Gold Valley Dr. #800
Rancho Cordova, CA 95742

Date 03/01/2023
Terms: NET 30, 30+ 15%

Customer P.O.#
Requestor: Repking

ATTENTION ACCOUNTS PAYABLE

* Please indicate Invo.# on remittance

SUN NOS.	SAMPLE LOCATION	ANALYSIS	PRICE
185029	S1145-05-21 DEL PASO B4-BULK	LTP.4	107.00
	********* Total *********		107.00