

Sonoma Valley High School Athletic Fields Renovation Project

Draft Environmental Impact Report

State Clearinghouse Number: 2019012028

October 11, 2019



Sonoma Valley Unified School District



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Prepared for:



Sonoma Valley Unified School District
17850 Railroad Avenue
Sonoma, CA 95476

Prepared by:



2235 Mercury Way, Suite 150
Santa Rosa, CA 95407
(707) 523-1010

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Appendix A NOP and Comments

Appendix B Lighting Analysis

Appendix C CalEEMod

Appendix D Biological Resources Report

Appendix E Geotechnical Investigation and Geological Hazard Evaluation

Appendix F Noise Study

Appendix G Transportation Study

Acronyms

AB	Assembly Bill
AES	Aesthetics
AF/Y	Acre-feet per year
AQ	Air Quality
ARB	California Air Resources Board
BAAQMD	Bay Area Air Quality Management District
BASMAA	Bay Area Stormwater Management Agencies Association
BIO	Biological Resources
BMP	best management practice
CAA	Clean Air Act
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CBC	California Building Code
CCC	California Coast Steelhead
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGF	California Fish and Game Code
CFR	Code of Federal Regulations
CGS	California Geological Survey
CIWMA	California Integrated Waste Management Act
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CPUC	California Public Utilities Commission
CRHR	California Register of Historic Resources
CRPR	California Rare Plant Rank
CTR	Cultural and Tribal Cultural Resources
CUPA	County's Certified Unified Program Agency
CWA	Clean Water Act
DOT	Department of Transportation
DSA	Division of the State Architect
DTSC	Department of Toxic Substances Control
EAP	Emergency Action Plan
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EOP	Emergency Operations Plan
EPA	U.S. Environmental Protection Agency
EPRI	Electric Power Research Institute

FAR	Federal Aviation Regulation
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FIGR	Federated Indians of Graton Rancheria
FIRM	Flood Insurance Rate Map
GEO	Geology, Soils, and Seismicity
GHG	Greenhouse Gas
HAZ	Hazards and Hazardous Materials
HI	hazard index
HWQ	Hydrology and Water Quality
IESNA	Illuminating Engineering Society of North America
ILE	Institution of Lighting Engineers
IPCC	Intergovernmental Panel on Climate Change
LHMP	Local Hazard Mitigation Plan
LID	Low Impact Development
LLDPE	linear low density polyethylene
LU	Land Use and Planning
MBTA	Migratory Bird Treaty Act
Mgd	million gallons per day
MLD	Most Likely Descendent
MMT	million metric tons
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Planning
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NO ₂	nitrogen dioxide
NOAA	National Ocean and Atmospheric Administration
NPDES	National Pollution Discharge Elimination System
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
OEHHA	California's Office of Environmental Health and Hazards
OES	Office of Emergency Services
OSHA	Occupational Safety and Health Act
PCB	Polychlorinated biphenyls
PG&E	Pacific Gas and Electric Company
PM	particulate matter
POU	Publicly Owned Utility
PRC	Public Resource Code
PRD	Permit Registration Documents
PSR	Public Services and Recreation
RCPA	Regional Climate Protection Authority
REAP	Rain Event Action Plan
REL	reference exposure level
ROG	reactive organic gases

RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCP	Sonoma Clean Power
SCWMA	Sonoma County Waste Management Agency
SGMA	Sustainable Groundwater Management Act
SMARTS	Stormwater Multiple Application and Report Tracking System
SO ₂	sulfur dioxide
SVCS	Sonoma Valley County Sanitation District
SVFRA	Sonoma Valley Fire and Rescue Authority
SVHS	Sonoma Valley High School
SVUSD	Sonoma Valley Unified School District
SWPPP	Storm Water Pollution Prevention Plan
SWQCB	State Water Quality Control Board
TAC	toxic air contaminant
TDS	Total Dissolved Solids
THPO	Tribal Heritage Preservation Officer
TLC	Total Light Control
TMDL	Total Maximum Daily Load
TSCA	Toxic Substances Control Act
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
UT	Utilities and Service Systems
WCB	Wildlife Conservation Board

1. Introduction

The Sonoma Valley Unified School District (District) is considering renovating the existing athletic fields and recreational facilities at the Sonoma Valley High School (SVHS) Campus. The California Environmental Quality Act (CEQA) requires that discretionary decisions by public agencies be subject to environmental review. The Project is subject to the provisions of the CEQA because it would result in a physical change in the environment and involves the issuance of discretionary approvals and permits. The District will serve as the lead agency for CEQA compliance because it is the public agency which has the principal responsibility for approving the Project.

1.1 California Environmental Quality Act

The District has prepared this Draft Environmental Impact Report (Draft EIR) for the Project to satisfy the requirements of CEQA. The purpose of an EIR is to identify the significant effects of a project on the environment, to identify alternatives to a project, and to indicate the manner in which those significant effects can be mitigated or avoided (Section 21002.1[a]). Each public agency is required to mitigate or avoid the significant effects on the environment of projects it approves or carries out whenever it is feasible to do so.

This Draft EIR is a project-level environmental document that examines and discloses the environmental impacts related to construction and operation of the Project in accordance with the requirements of CEQA. Environmental effects of the Project that must be addressed include the significant effects of the Project, growth-inducing effects of the Project, and significant cumulative effects of past, present, and reasonably anticipated future projects. To do this, an EIR must include a description of the physical environmental conditions in the vicinity of a project as they exist at the time a Notice of Preparation (NOP) is published, from both a local and regional perspective. This environmental setting normally constitutes the baseline physical conditions by which the lead agency determines whether an impact is significant. The overall SVHS Campus setting is described in Chapter 2 (Project Description), while topic-specific settings are described within each technical section of this Draft EIR.

The environmental impacts of the proposed Project are analyzed in this Draft EIR to the degree of specificity appropriate, in accordance with CEQA Guidelines Section 15146. This document addresses the potentially significant adverse environmental impacts that may be associated with the Project. It also identifies appropriate and feasible mitigation measures and alternatives that may be adopted to significantly reduce or avoid these impacts.

As the CEQA lead agency, the District is the decision-making body that will consider the adequacy of the EIR prior to considering approval of the Project. Prior to public review, this Draft EIR was reviewed and evaluated by the District, and this Draft EIR reflects the independent judgment and analysis of the District as required by CEQA. Other public agencies may use this Draft EIR in the decision-making or permit process and consider the information in this Draft EIR along with other information that may be presented during the CEQA process.

1.2 Background

1.2.1 Project Need

The existing track & field and ball fields at the SVHS Campus have reached the end of their useful life and are in need of replacement. In addition, the track does not meet current leagues standards, therefore the Campus cannot host a home meet. Because soccer has moved to a winter sport, the fields are often wet and unusable and the Campus cannot host home games as they occur in the evening and require lighting. Because the existing facilities are inadequate, several SVHS athletic games and special events including soccer games, football games, baseball games, lacrosse games, cheer games, and senior graduation ceremonies are held at various off-campus locations (Adele Harrison Middle School, Arnold Field, and Field of Dreams). The SVHS athletic activities that are held at Arnold Field and Field of Dreams require bussing of athletes to those locations, which are located approximately 1.2 miles north of the SVHS Campus. The Project would allow the majority of existing SVHS team sports activities and SVHS special events that currently occur off-site to occur on the SVHS Campus, thereby reducing the demand at Adele Harrison Middle School, Arnold Field, and Field of Dreams and also reducing vehicle traffic between some of these facilities. The Project would also provide improved facilities that would support existing non-SVHS community events held on the campus.

1.2.2 Facilities Master Plan

The SVHS Facilities Master Plan (QKA 2015) was undertaken to identify improvements required to provide a safe, secure, and well-maintained campus and serves as a guide for implementation of facility improvements. The original SVHS Facilities Master Plan was revised in 2017 and included development of a list of priority improvements. The updated Facilities Master Plan was presented to the District Board in June 2017, and an implementation strategy was approved by the District in September 2017.

The current Facilities Master Plan identifies improvements within the following areas:

- **Mandatory Improvements:** improvements required to bring the campus into conformance with regulatory codes and to resolve safety issues.
- **Green Technology:** improvements that reduce campus consumption of natural resources while improving the learning environment for its users.
- **Necessary Improvements:** improvements required to preserve the campus and provide necessary classroom and technology upgrades.
- **Desired Improvements:** improvements required to accommodate educational program changes and provide building additions.

The improvements were then given priorities for implementation in three groups:

Group 1: Item that must be done.

Group 2: Item that should be done.

Group 3: Item would be nice to do if funds are available.

Improvements to the drainage of the Campus is identified under Necessary Improvements/Group 1. Improvements to the athletic fields are identified under Desired Improvements/Group 1 and include the following:

- New Track & Field, including seating, team rooms, storage, restrooms, and concession buildings.
- New and/or Modernized fields for softball and JV baseball.

Relocation of the basketball courts, which is necessary to implement the field improvements listed above, is identified as Desired Improvements/Group 2. Finally, overall Americans with Disabilities Act (ADA) compliant improvements to the Campus are identified under Mandatory Improvements, which includes additional ADA parking and improved paths of travel.

1.2.3 Interagency and Public Coordination

Throughout the Facilities Master Plan process and the current EIR process, the District has coordinated with the City of Sonoma, the California Department of Transportation (Caltrans), and the Sonoma Ecology Center. In addition, the District has organized several public information meetings. Those meetings related to the CEQA process are described below in Section 1.4 (Public Involvement and Scoping Process).

1.3 Public Involvement and Scoping Process

In addition to public meetings held during development of the SVHS Facilities Master Plan, the following public involvement and scoping was completed specific to the Draft EIR.

1.3.1 Notice of Preparation

The District issued a Notice of Preparation (NOP) of an EIR to responsible agencies, trustee agencies, the Office of Planning and Research, Native American tribes, and neighboring property owners and interested parties on January 15, 2019. A copy of the NOP is included in Appendix A of this Draft EIR.

The NOP solicited guidance from responsible and trustee agencies and the general public as to the scope and content of the environmental information to be included in the EIR. A 30-day EIR scoping period began January 15 and ended February 15, 2019. A public scoping meeting was held on January 28, 2019 at the SVHS Campus. A total of 15 people signed into the meeting, several of whom spoke on the Project. One State agency letter (Native American Heritage Commission) and eight public written comments were received during the 30-day scoping period. Copies of the written comments are included in Appendix A of this Draft EIR. Table 1-1, below, summarizes the comments.

1.3.2 Areas of Controversy and Key Environmental Issues

The public scoping process identified a number of key environmental issues to be addressed in the EIR. These issues are listed in Table 1-1 (Key Issues to be Addressed in EIR), which provides references to the chapter and sections of the Draft EIR in which each issue is addressed.

Table 1-1 Key Environmental Issues to be Addressed in EIR

Issue	Chapter / Section of EIR where Issue is Discussed / Evaluated
Potential impacts to aesthetics from field improvements and lighting	3.1 Aesthetics
Potential impacts to Nathanson Creek and to biological resources from night-time lighting	3.3 Biological Resources
Potential impacts to cultural and tribal cultural resources	3.4 Cultural & Tribal Cultural Resources
Potential hazard impacts from field materials	3.7 Hazards & Hazardous Materials
Potential impacts from increased impervious (run-off/flooding), and potential impacts to water quality in Nathanson Creek	3.8 Hydrology and Water Quality
Potential impacts from noise during construction and operational events	3.10 Noise
Potential impacts to traffic during events, including potential impacts from ingress/egress for vehicles and pedestrians	3.12 Transportation
Potential impacts to utilities, including water use	3.13 Utilities
Alternatives to consider	4 Alternatives
Concerns regarding parking	2.0 Project Description Appendix G Traffic and Parking Study

1.4 Availability of Draft EIR and Public Comment Period

The Draft EIR will be circulated for 45 days, from October 11, 2019 to November 25, 2019, to allow responsible and trustee agencies and the general public to review and comment on the document. A public hearing may be held before the District Board on November 5, 2019 at the District Offices, located at 17850 Railroad Avenue in the City of Sonoma. Please refer to the District's website for updates and potential changes in meeting dates. Written comments on the Draft EIR will be accepted by the District until 5 p.m. on November 25, 2019. All written comments should be addressed to:

Sonoma Valley Unified School District
 Bruce Abbott, Associate Superintendent
 17850 Railroad Avenue
 Sonoma, California 95476
 Email: babbott@sonomaschools.org

To facilitate understanding of the comments, please provide a separate sentence or paragraph for each comment, and note the page and chapter of the EIR to which the comment is directed. This approach to commenting will help the District to provide a clear and meaningful response to each comment received.

Copies of the Draft EIR are available for review at the following locations:

- SVUSD District Offices at 17850 Railroad Avenue, Sonoma
- Sonoma High School Administration Building at 20000 Broadway, Sonoma
- Online at the District's Website: sonomaschools.org

1.5 Summary of Impacts and Mitigation Measures

Table 1-2 (Impact and Mitigation Summary) identifies, by environmental topic, the Project impacts and proposed mitigation measures. Impact significance is shown in the table below as follows:

- No Impact (NI)
- Less-than-Significant Impact (LS)
- Less-than-Significant Impact after Mitigation Incorporated (LSM)
- Significant and Unavoidable Impact with No Feasible Mitigation Available (SU)
- Significant and Unavoidable after Mitigation Incorporated (SUM) (note that this Draft EIR has not identified any significant and unavoidable impacts)

Additional information about the impacts and mitigation measures can be found in Chapter 3, Sections 3.1 through 3.13, of this Draft EIR.

Table 1-2 Impact and Mitigation Summary

Environmental Topic	Impact Significance	Proposed Mitigation Measure(s)	Impact after Mitigation
Aesthetics and Visual Resources			
AES-1: Would the project have a substantial adverse effect on a scenic vista?	Less than Significant	No mitigation is needed	N/A
AES-2: Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	Less than Significant	No mitigation is needed	N/A
AES-3: Would the project conflict with applicable zoning and other regulations governing scenic quality?	No Impact	No mitigation is needed	N/A
AES-4: Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Less than Significant	No mitigation is needed	N/A
Air Quality			
AQ-1: Would the project conflict with or obstruct implementation of the applicable air quality plan?	Less than Significant	No mitigation is needed	N/A
AQ-2: Would the project result in a cumulatively considerable net increase in any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?	Less than Significant	No mitigation is needed	N/A
AQ-3: Would the project expose sensitive receptors to substantial pollutant concentrations?	Significant	AQ-1: Use Low DPM or Zero Emissions Equipment	Less than Significant with Mitigation

Environmental Topic	Impact Significance	Proposed Mitigation Measure(s)	Impact after Mitigation
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	No mitigation is needed	N/A
Biological Resources			
BIO-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	Significant	BIO-1a: Avoid Impacts to Special-Status Plants BIO-1b: Avoid Impacts to Nesting Birds BIO-1c: Avoid Impacts to Special-Status Bats	Less than Significant with Mitigation
BIO-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	Less than Significant	No mitigation is needed	N/A
BIO-3: Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No Impact	No mitigation is needed	N/A
BIO-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Less than Significant	No mitigation is needed	N/A
BIO-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Significant	BIO-1a: Avoid Impacts to Special-Status Plants BIO-1b: Avoid Impacts to Nesting Birds BIO-1c: Avoid Impacts to Special-Status Bats	Less than Significant with Mitigation
BIO-6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	No Impact	No mitigation is needed	N/A

Environmental Topic	Impact Significance	Proposed Mitigation Measure(s)	Impact after Mitigation
Cultural and Tribal Cultural Resources			
CTR-1: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	No Impact	No mitigation is needed	N/A
CTR-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Significant	CTR-2: Protect Archaeological Resources during Construction	Less than Significant with Mitigation
CTR-3: Would the project disturb any human remains, including those interred outside of formal cemeteries?	Significant	CTR-3: Procedures for Encountering Human Remains during Construction	Less than Significant with Mitigation
CTR-4: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is 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 that is 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?	Significant	CTR-4: Minimize Impact to Unknown Tribal Cultural Resources	Less than Significant with Mitigation
Geology and Soils			
GEO-1: Would there be a risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	Less than Significant	No mitigation is needed	N/A
GEO-2: Would there be risk of loss, injury, or death involving strong seismic ground shaking?	Less than Significant	No mitigation is needed	N/A

Environmental Topic	Impact Significance	Proposed Mitigation Measure(s)	Impact after Mitigation
GEO-3: Would there be risk of loss, injury, or death involving seismic related ground failure, including liquefaction?	Less than Significant	No mitigation is needed	N/A
GEO-4: Would there be risk of loss, injury, or death involving landslides?	No Impact	No mitigation is needed	N/A
GEO-5: Would the project result in substantial soil erosion or the loss of topsoil?	Less than Significant	No mitigation is needed	N/A
GEO-6: Would the project be located on a geologic unit or soil that is unstable or expansive, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Less than Significant	No mitigation is needed	N/A
GEO-7: Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No Impact	No mitigation is needed	N/A
GEO-8: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Significant	GEO-1: Protect Paleontological Resources During Construction Activities	Less than Significant with Mitigation
Greenhouse Gas Emissions and Energy			
GHG-1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than Significant	No mitigation is needed	N/A
GHG-2: Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	No Impact	No mitigation is needed	N/A
ENG-1: Would the project result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Less than Significant	No mitigation is needed	N/A
ENG-2: Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No Impact	No mitigation is needed	N/A

Environmental Topic	Impact Significance	Proposed Mitigation Measure(s)	Impact after Mitigation
Hazards and Hazardous Materials			
HAZ-1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Less than Significant	No mitigation is needed	N/A
HAZ-2: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Less than Significant	No mitigation is needed	N/A
HAZ-3: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Less than Significant	No mitigation is needed	N/A
HAZ-4: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	Less than Significant	No mitigation is needed	N/A
HAZ-5: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less than Significant	No mitigation is needed	N/A
HAZ-6: Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Less than Significant	No mitigation is needed	N/A
Hydrology and Water Quality			
HWQ-1: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less than Significant	No mitigation is needed	N/A
HWQ-2: Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	Less than Significant	No mitigation is needed	N/A

Environmental Topic	Impact Significance	Proposed Mitigation Measure(s)	Impact after Mitigation
HWQ-3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	Less than Significant	No mitigation is needed	N/A
HWQ-4: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	Less than Significant	No mitigation is needed	N/A
HWQ-5: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	Less than Significant	No mitigation is needed	N/A
HWQ-6: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would Impede or redirect flood flows?	Less than Significant	No mitigation is needed	N/A
HWQ-7: Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	Less than Significant	No mitigation is needed	N/A
HWQ-8: Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Less than Significant	No mitigation is needed	N/A
Land Use and Planning			
LU-1: Would the project physically divide an established community?	No Impact	No mitigation is needed	N/A
LU-2: Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	No Impact	No mitigation is needed	N/A

Environmental Topic	Impact Significance	Proposed Mitigation Measure(s)	Impact after Mitigation
Noise			
NOI-1: Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less than Significant	No mitigation is needed	N/A
NOI-2: Would the project result in generation of excessive groundborne vibration or noise levels?	Less than Significant	No mitigation is needed	N/A
NOI-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	Less than Significant	No mitigation is needed	N/A
Public Services and Recreation			
PSR-1: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: fire protection, police protection, schools, parks, and/or other public facilities?	No Impact	No mitigation is needed	N/A
PSR-2: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated, or include recreational facilities or require the construction or expansion of recreation facilities which might have an adverse physical effect on the environment?	Less than Significant	No mitigation is needed	N/A
Transportation and Traffic			
TR-1: Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	Less than Significant	No mitigation is needed	N/A

Environmental Topic	Impact Significance	Proposed Mitigation Measure(s)	Impact after Mitigation
TR-2: Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	Less than Significant	No mitigation is needed	N/A
TR-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No Impact	No mitigation is needed	N/A
TR-4: Would the project result in inadequate emergency access?	No Impact	No mitigation is needed	N/A
Utilities and Service Systems			
UT-1: Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	No Impact	No mitigation is needed	N/A
UT-2: Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	Less than Significant	No mitigation is needed	N/A
UT-3: Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	Less than Significant	No mitigation is needed	N/A
UT-4: Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	Less than Significant	No mitigation is needed	N/A
UT-5: Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No Impact	No mitigation is needed	N/A

2. Project Description

The Sonoma Valley Unified School District (District) is the Lead Agency for preparation of this Environmental Impact Report (EIR) for the proposed Sonoma Valley High School Athletic Fields Renovation Project (Project). The District proposes to renovate and modernize the existing athletic fields with a new track & field, baseball and softball fields, and basketball courts. The Project would provide facilities to support the existing athletic field practices and events conducted by the high school, as well as community events held on the campus.

2.1 Project Location

The Project site is the Sonoma Valley High School (SVHS) Campus at 20000 Broadway, in the City of Sonoma (see Figure 2-1 Regional Location Map). The Project site consists of the SVHS Campus, with the Project's proposed improvements mostly located on approximately 16.8 acres of the northeastern portion of the campus. Figure 2-2 (Project Site) identifies this area as Athletic Fields Renovation Area (renovation area). Two improvements would be located outside of the renovation area: 1) utility connections at Denmark Street; and 2) six Americans with Disabilities Act (ADA) compliant parking spaces would be added south of the existing tennis courts and solar panels.

The SVHS Campus is bounded by State Route (SR) 12/Broadway to the west, residences and commercial establishments to the north, Prestwood Elementary School and residences to the east, and Adele Middle School and residences to the south. The renovation area is bounded by existing residences along MacArthur Lane to the north, Prestwood Elementary School to the northeast, residences along Davila Court, Eastin Drive, Denmark Street, and Brockman Lane to the east, the SVHS Campus agricultural farm to the south, and Nathanson Creek Preserve and associated pedestrian trail to the west.

Regional access to the Project site is provided by SR 12/Broadway, SR 116, and SR 121 which are major north-south and east-west vehicular transportation corridors in the Project area. Vehicular access to the SVHS Campus is provided from SR 12/Broadway.

2.2 Project Objectives

The Project is intended to achieve the following objectives:

- Provide a multi-use facility, including ancillary facilities, on the high school campus to serve the needs of the Sonoma Valley High School community.
- Upgrade existing athletic facilities and fields at the SVHS Campus to improve physical education instruction and activities, as well as bring the facilities into conformance with contemporary standards, including replacement of the existing turf and track surfaces and installing state-of-the-art public address and lighting systems.
- Provide sufficient spectator seating to accommodate current high school activities at the campus.
- Eliminate the need for use of off-campus facilities for Sonoma Valley High School sports practice, home games, and graduation events.
- Improve emergency access and circulation through the Project site.
- Modernize the Project site for ADA accessibility.

2.3 Existing Conditions

2.3.1 Sonoma Valley High School Campus

The SVHS serves approximately 1,300 students in grades 9 thru 12 and is the only high school in the City of Sonoma. In the 2018-19 school year, the school had an enrollment of 1,274 students.

The 48-acre SVHS Campus, bisected by Nathanson Creek, consists of multiple facilities on gently sloping terrain. The building area, including court yards and parking, is on the west side of the creek. The original Sonoma Valley High School building was constructed in 1922, with additional buildings added at various times over the years to respond to changing educational program and student population needs. The current buildings comprise 200,000 square feet. The east side of the Campus includes the athletic fields, basketball courts, and the agricultural farm. There are three pedestrian bridges that cross Nathanson Creek, connecting the west side of the campus with the east side of the campus.

Nathanson Creek has been subject to restoration efforts by the Sonoma Ecology Center, including removal of non-native vegetation and planting of trees along the east side of the riparian corridor. A paved path provides public pedestrian facilities on the east side of the creek that can be publicly accessed from MacArthur Lane, Denmark Street, and at a point from Larkin Drive at the agricultural farm.

Vehicular access to the campus is provided along the west side of the campus at two locations along Broadway Street. Vehicular access on the east side is limited to the agricultural farm, which is provided at Larkin Drive. Pedestrian access occurs at multiple points along Broadway Street, MacArthur Lane, Davila Court, Denmark Street, and Larkin Drive. The campus contains 399 formal parking spaces, and can accommodate approximately 204 vehicles in informal spaces (parking is described in more detail below).

In 2011/2012, the campus installed a 988 kilowatt photovoltaic system, located primarily over the campus parking lot. The photovoltaic system produces approximately 1,443,85 kilowatt hours per year, offsetting the current electrical energy demand of the campus. As the campus ages and mechanical and electrical systems are replaced with more efficient systems the photovoltaic systems net contribution to the grid is anticipated to increase.

In 2016 the Sonoma Valley Sanitation District installed a recycled water pipeline at the edge of the campus at Denmark Street. A service turnout also was installed, essentially “pre-plumbing” the campus for future recycled water use at the athletic fields.

2.3.2 Athletic Fields Renovation Area

Existing on-campus athletic fields are located within the northeastern portion of the SVHS Campus. The renovation area includes the existing fields and extends approximately 175 feet south of the pedestrian path connecting Denmark Street to the Nathanson Creek Trail, as shown on Figure 2-2 (Project Location). The terrain of the renovation area is predominantly flat.

Within the renovation area, existing athletic facilities include a natural turf athletic field that is used for soccer and other sports with a 7 lane all-weather track. The synthetic surface for the track has reached the end of its useful life and requires replacement. In addition, there are two existing natural turf softball fields, one natural turf JV baseball field, and six basketball courts. Portable metal bleacher units are located adjacent to the softball fields. To the east of the existing track are three conex

storage structures, side by side, and a portable restroom building. To the west of the track is another cluster of storage structures.

There is currently no formal vehicular access to the renovation area. Pedestrian access from the western portion of the SVHS Campus is via three existing pedestrian bridge crossings of Nathanson Creek. These crossings allow for maintenance and school vehicles only. Pedestrian access to the athletic fields also exists from MacArthur Lane to the north, and Prestwood Elementary school, Davila Court, and Denmark Street to the east. Pedestrian access points to the athletic fields are ungated. The access from Denmark Street has removable bollards and gate preventing vehicular access to the site, but allowing emergency vehicle access.

To the south of the existing athletic fields, the renovation area consists of managed grassland. The remainder of the renovation area is largely open, with a variety of trees and shrubs located along portions of the perimeter between the athletic fields and adjacent land uses.

The site is surrounded by a chain link fence along the north and east side. The fencing on the east side continues past the agricultural farm and around the south side of the campus. Existing impervious surfaces within the renovation area include the track, basketball courts, buildings, and emergency vehicle access and pedestrian pathways.

2.3.3 Existing Athletic and Special Events (on and off campus)

Existing SVHS athletic and special events are summarized in Table 2-1 (Existing Events). In addition to the athletic and special events listed in Table 2-1, the athletic fields are used daily during the school year to support physical education classes at both SVHS and Adele Middle School.

There are approximately 1,052 SVHS athletic and special events occurring from August through June each year. Attendance ranges from 22, for practices, to 1,300 for varsity football, and 2,500 for graduation. Of these events, 429 SVHS athletic events are held at off-campus locations due to inadequacy of existing on-campus facilities, including the high-attendance events of varsity football and graduation. Off-campus locations for SVHS events are shown on Figure 2-3 (Existing Event Locations) and include Adele Harrison Middle School, Arnold Field, and Field of Dreams. Adele Harrison Middle School is located immediately south of the SVHS Campus. Both Arnold Field and Field of Dreams is located approximately 1.1 travel miles to the north of the SVHS Campus.

In addition to SVHS events, the existing athletic fields support an estimated 166 non-SVHS events, including soccer, softball, and track & field for Adele Middle School and an array of community and youth groups. In total, more than 1,200 athletic and special events are held on- and off-campus throughout the year.

Table 2-1 Existing Athletic and Special Events (on- and off-campus)

Event	Location		Months	Days	Annual Occurrences	Average Attendance per Event
	Off-Campus	On-Campus				
SVHS BOYS SOCCER						
JV Soccer Practice		Soccer Field	Nov-Feb	M, W, F	48	22
JV Soccer Games	Adele		Nov-Feb	Vary	6	30
Varsity Soccer Practice	Adele		Nov-Feb	M, W, F	48	22
Varsity Soccer Games	Adele		Nov-Feb	Vary	6	40
SVHS GIRLS SOCCER						
JV Soccer Practice		Soccer Field	Nov-Feb	M-F	80	16
JV Soccer Games	Adele		Nov-Feb	Vary	8	35
Varsity Soccer Practice	Adele		Nov-Feb	M-F	80	16
Varsity Soccer Games	Adele		Nov-Feb	Vary	8	35
SVHS FOOTBALL						
JV Practice		Soccer Field	Aug-Nov	M-TH	64	40
JV Games	Arnold Field		Aug-Nov	F	6	500
Varsity Practice		Soccer Field	Aug-Nov	M-TH	64	40
Varsity Games	Arnold Field		Aug-Nov	F	6	1,300
SVHS BASEBALL						
Frosh Practice		Baseball Field	Feb-May	M-F	80	17
Frosh Games		Baseball Field	Feb-May	W, F	12	30
JV Practice	Field of Dreams		Feb-May	M-F	80	20
JV Games	Field of Dreams		Feb-May	M-F	12	40
Varsity Practice	Arnold Field		Feb-May	M-Sat	96	20
Varsity Games	Arnold Field		Feb-May	M-Sat	12	60

Event	Location		Months	Days	Annual Occurrences	Average Attendance per Event
	Off-Campus	On-Campus				
SVHS SOFTBALL						
JV Practice		JV Softball Field	Mar-May	M-F	80	15
JV Games		JV Softball Field	Mar-May	Vary	15	30
Varsity Practice		Varsity Softball Field	Mar-May	M-F	80	15
Varsity Games		Varsity Softball Field	Mar-May	Vary	15	40
SVHS LACROSSE						
LaCrosse Practice	Adele		Feb-May	M-W-F	48	20
LaCrosse Games	Adele		Feb-May	Vary	12	60
SVHS TRACK & FIELD						
Track Practice		Track	Feb-May	M-F	80	60
Track Competition		Track	Feb-May	M-F	3	80
SVHS OTHER EVENTS						
Cross-Country Practice		Track	Sep-Nov	M-F	2	25
Cheer Games	Arnold Field		Aug-Dec	Varies	n/a	n/a
Senior Graduation	Arnold Field		June	n/a	1	2,500
NON-SVHS EVENTS						
Babe Ruth Baseball		Fresh. Baseball Field	Mar-May	M-F	26	12
Adele Track & Field		Track	Mar-Apr	W, TH	5	60
Adele Soccer Team		Soccer Field	Aug-Sep	T, TH	24	30
Stack Traveling Softball		Varsity Softball	Jan-May	Sun	16	15
Sonoma Soccer Club		Soccer Field	Jun-Nov	M, W, F	60	30
Sonoma Youth Soccer Assoc.		Soccer Field & Track	May-Jun	Sat-Sun	10	30
Nor Cal Throwers		Soccer Field	Sept-Oct	Sun	3	7
Girls on the Run		Track	Sep-Nov	T, TH	22	8

Source: Sonoma Valley Unified School District.

2.3.4 Campus Parking and Overflow Parking

The SVHS Campus has 399 formal (paved and marked) parking spaces and approximately 204 informal (graveled areas/basketball courts, etc.) parking spaces. Of the informal, 52 are located on the basketball courts of Adele Middle School. These informal spaces are included as part of the SVHS Campus parking because the basketball courts are adjacent to, and can be accessed from, the main parking lot on the SVHS Campus.

Overflow parking exists at the adjoining campuses of Adele Middle School and Prestwood Middle School. Adele has 53 formal parking spaces and Prestwood has 54 formal parking spaces. Both campuses have direct pedestrian access to the SVHS Campus.

Overall, the SVHS Campus (including the 52 adjoining informal spaces at Adele Middle School basketball courts) can accommodate up to 603 vehicles, while the adjoining campuses can accommodate 107 vehicles.

2.4 Project Components

As depicted in Figure 2-4 (Conceptual Site Plan), the Project would result in renovation and reorganization of the existing track & field, softball and baseball fields, and basketball courts facilities within approximately 16.8 acres of the SVHS Campus. This area is referred to as the Athletic Field Renovation Area on Figure 2-2. Along the southern portion of the renovation area a low impact development biofiltration/detention basin would be constructed.

In addition, utility connections would be made to existing public facilities extending into the campus from Larkin Street and Denmark Street, and six ADA parking spaces would be added south of the existing tennis courts and solar panels. The sewer service pipe connection and ADA parking spaces would occur outside the renovation area in areas shown on Figure 2-2 (Project Site).

Pedestrian and maintenance access points would remain the same as described in Section 2.3 (Existing Conditions) with the exception of the existing bollards and gate would be removed and replaced with new EVA and pedestrian gates at the Denmark Street entrance and would be closed to pedestrians during large events (Friday night football and graduation). In addition, pedestrian circulation within the renovation area would be improved, and emergency vehicle access would be added.

No improvements or modifications would occur within Nathanson Creek channel or to the adjacent planted trees along the east side of the trail.

The above referenced components are described in more detail below.

2.4.1 Renovated Track & Field

The existing track & field would be relocated to a central location on the west side of the renovation area, away from neighboring residences. The entrance to the track & field would be near the

Nathanson Creek trail approximately 250 feet south of the northernmost pedestrian bridge. The renovated track & field includes installation of:

- An 8-lane all-weather track (including areas for field events);
- An all-weather synthetic turf field;
- Aluminum bleachers (1,300-person capacity; press box);
- Building to house team rooms, storage, concessions, and restrooms;
- Future small structure for ticket sales;
- Public Address (PA) system
- Scoreboard; and
- LED field lighting.

The renovated track & field would have stationary home bleachers and portable visitor bleachers that can accommodate up to 1,300 visitors. The track & field would be surrounded by 6-foot-high fence at the exterior and a 4-foot-high fence at the interior. A new fire hydrant would be installed next to the building. Existing storage containers would be relocated to various locations around the track & field. A retaining wall would start flush with the creek trail at the northern end of the track & field, and hold the track elevation level to the south as the creek trail drops towards the Denmark pedestrian path. The retaining wall would wrap around the southern end of the track & field, near the Denmark pedestrian path, reaching a height of no more than 3.5 feet.

All-Weather Track and Synthetic Turf

The synthetic turf materials would consist of a permeable rock base, overlain by a Brock Safety Pad, artificial turf carpet, and a sand and natural cork infill. While there is more heat from a turf field as compared to a grass field, the cork infill is 35 degrees cooler than the alternative of granulated rubber. The synthetic turf would be a linear low density polyethylene grass yarn. Domestic water would be provided to the field and can be accessed by quick couplers to wash down the field when needed. The turf carpet is made from recycled material and both the turf backing and turf carpet are recyclable. The anticipated on-field lifespan of the turf carpet is 8 years, while the lifespan of the safety pad is 25 years. Maintenance and replacement of the turf is described in Section 2.6 (Operation and Maintenance).

Public Address System

A PA system would be installed at the track & field. The system would consist of speakers mounted on up to 12 poles, each approximately 30 feet tall. These poles would be located behind the bleachers on either side of the athletic field. Speakers would be provided with safety stainless steel cables for secure mounting to the poles. A public address speaker may be mounted on a pole that also supports an egress lighting luminaire. The speakers would be directed towards the spectators and the field, and would be designed to focus and minimize the amount of sound that would leave the track & field area.

Lighting

Eight new 70-foot-tall sports lighting poles with focused MUSCO LED light arrays would be installed around the perimeter of the track, and would be focused to the areas of play within the track & field. The selection of LED lighting solutions is based on their greater capacity for control, such as differential timing, when compared to other options, as well as superior energy savings. The system would have a load of 31.28 kilowatts and be installed with circuit systems specific to the area of play (zone 1), and the bleachers and egress (zone 2). Zone 1 would have LC-LED-1200 luminaires and Zone 2 would have TLC LED 400 luminaires.

Each pole would measure approximately 16-inches wide at the base and 7-inches wide at the top. Each pole would have three luminaires, which would be 26-inches wide by 21-inches tall. Additionally, 4 of the poles would have two luminaires specific for the bleachers and egress lighting. The illumination summary and lighting analysis are provided in Appendix B (Lighting Analysis).

2.4.2 Softball and Baseball Fields

The softball and baseball fields would be reconfigured along the northern and eastern boundary of the renovation area. The existing softball field adjacent to the Denmark Street pedestrian access point would be renovated. A second softball field would be constructed immediately north of the renovated field. Between these two fields would be a natural grass soccer overlay. The JV baseball field and an open recreation field would be located along the northern extent of the renovation area. All three fields would include an 8-foot-high chain-link fence. The baseball field would include a 30-foot high retractable netting along the north property, in left field, to protect neighbors from errant baseballs. The netting would be retracted when not in use.

The field configuration would not include a varsity baseball field. With implementation of the Project, varsity baseball practice and games would continue to occur at Arnold Field. Ancillary improvements for the softball and baseball fields would include ADA pedestrian access, portable metal bleachers, scoreboard, drinking fountain(s), and batting cages. Existing storage containers would be relocated to various areas around the fields. No field lights would be installed around the renovated baseball field, softball fields, or the natural grass open field.

2.4.3 Basketball Courts

The Project would relocate the six existing basketball courts to the southern end of the renovation area. The number of basketball courts would be the same; however, there would be an increase in surface area associated with the relocation.

2.4.4 Pedestrian and Emergency Access

The Project would install improved pedestrian access facilities between the proposed athletic fields, providing paved ADA pathways to all the renovated fields. Pedestrian access points to the renovation area would remain the same, with the exception that a gate would be installed at the Denmark Street entrance and closed during large events (Friday night football and graduation), thus blocking pedestrian access from Denmark Street approximately 7 times per year.

A new fire gate would be installed at the terminus of Denmark Street, and a 20-foot-wide emergency vehicle access (EVA) and maintenance pathway would be constructed. The EVA would begin at the

terminus of Denmark Street, proceed west across the basketball courts, then turn north between the track & field and softball fields, terminating at the building. Adequate turning path at the end of the EVA is identified to allow emergency vehicles to quickly maneuver and egress. The fire hydrant mentioned under Section 2.4.1, above, would be accessible at this location.

2.4.5 Stormwater Treatment and Detention

Implementation of the Project would result in an estimated 2.6 acres increase in impervious surface mostly from the relocated basketball courts, new building, circulation paths, track & field, and new emergency vehicle access pathway. To accommodate stormwater runoff from the impervious surfaces, and to meet current standards, new low impact development (LID) stormwater treatment facilities would be implemented as part of the Project.

New field drainage infrastructure would include permeable drain rock under the synthetic turf field, with an underground perimeter and flat subdrain system around the field. The renovation area is designed to allow for infiltration with overflow stormwater directed to a biofiltration/detention basin, to the maximum extent feasible, as described below. The new subsurface drainage system would convey stormwater to the biofiltration basin in pipes and gravel trenches.

Stormwater treatment improvements would be incorporated into the site. The majority of the renovation area would drain to an approximate 13,700 square foot biofiltration/detention basin located on the southern boundary of the renovation area. The stormwater treatment improvements would be equivalent to those designed under the guidelines of the Bay Area Stormwater Management Agencies Association (BASMAA) Post-Construction Manual, which is the guidance document used to implement the LID design standards contained in the City of Sonoma's Phase II Small Municipal Separate Storm Sewer System (MS4) General Permit (Order Number 2013-0001-DWQ). The biofiltration/detention basin would provide filtration and bioretention of stormwater runoff, and include an overflow structure and discharge pipe to drain to the existing culvert that connects to Nathanson Creek. The basin would be sized to capture the additional volume of runoff generated by the increase in impervious surface area. The stormwater treatment improvements would reduce peak flow rates for smaller storm events, and maintain peak flow rates for larger events, when compared to existing conditions. A 4-foot-high fence would surround the biofiltration/detention basin, and include an access gate.

2.4.6 Landscaping

Following construction, all exposed soil areas would be hydroseeded or mulched to minimize weeds. Low maintenance grasses, trees, and other native species would be included in the landscape design. Plant species to be used in the biofiltration/detention basin would be consistent with species specified in the BASMAA Post-Construction Manual. Areas of planting within the vicinity of Nathanson Creek would be set back from the riparian corridor. Species selection and location would be determined in coordination with the Sonoma Ecology Center.

Approximately 64 new trees would be planted (53 24-inch; 10 48-inch box; and 1 60-inch box) throughout the renovation area. Species would include oaks, redwood, and/or cedars. Twelve (12) trees would be planted along the basketball courts, 21 trees would be used to screen neighboring residences along the northern border of the renovation area, and 30 trees would be planted around the renovated fields. One redwood or cedar would be planted in the vicinity of, and to replace, the memorial tree. The existing plaque would be relocated and placed at the new tree.

2.4.7 Utilities

Sanitary sewer, potable water, and electrical would be extended into the renovation area. Connections would be made to existing utilities in Denmark Street (see Figure 2-2 [Project Site]) or on-site.

Sonoma Valley County Sanitation District would provide sanitary sewer service for the restroom/concession building.

City of Sonoma would provide potable and fire supply water which would be needed for the restroom/concession building, drinking fountains, synthetic turf quick connect hose bibs, and fire hydrant.

PG&E would provide electricity for the restroom/concession building and the track & field lights and PA system. No natural gas would be needed for the improvements.

The site is pre-plumbed for recycled water which would be used to irrigate the natural turf fields and landscaping. Irrigation piping and a small irrigation pump would be installed within the renovation area.

2.5 Construction Activities

The Project includes demolition and removal of the existing athletic fields and approximately 39,000 square feet of pavement (existing basketball courts). Mass grading would occur on the entire 16.8-acre renovation area to prepare for installation of the facilities described above. Trenching would occur along Denmark Street for utility connections.

Construction would mostly be confined within the renovation area (see Figures 2-2 Project Site). The utility connections and 6 new ADA parking spaces would occur outside of the renovation area. Other than the utility connections within Denmark Street, no off-site improvements would occur.

During construction, existing on-campus athletic activities would be temporarily relocated:

- Track & field practice and league events would likely be moved to Altimira Middle School
- JV soccer practice would likely be moved to Adele Harrison Middle School.
- JV and Varsity football practice would likely be moved to Arnold Field.
- Freshman baseball practice and games and JV and Varsity softball practice and games would likely be moved to Field of Dreams or Arnold Field.
- Non-SVHS events that are currently held on the SVHS Campus would be temporarily relocated to either Adele Middle School, Altimira Middle School, Prestwood Elementary School, Arnold Field, Field of Dreams, or possibly Teeter Field and Hughes Field.

2.5.1 Construction Schedule

Construction of the project is anticipated to begin in May 2020, and would take approximately 12 to 14 months. The anticipated workday hours are 8:00 a.m. to 6:00 p.m. Monday through Friday, 9:00 a.m. to 6:00 p.m. on Saturday, and 10:00 a.m. to 6:00 p.m. on Sundays and holidays, consistent with the City of Sonoma Municipal Code. This schedule has been developed so that the bulk of construction activities, including demolition and grading, could occur through the summer months to minimize conflict with school activities.

Following is an estimate of each construction activity and its duration. Note that some construction activities would overlap; this should not be interpreted as an absolute sequential process:

- Demolition – 1 month
- Site preparation and grubbing – 2 months
- Grading (including landscaping, utility trenching, drainage) – 10 months
- Building construction (including building, bleachers, poles) – 5 months
- Paving and concrete walkways – 7 months (intermittent)
- Architectural coating – 1 month

2.5.2 Demolition and Grading

Prior to the start of site grading, all existing structures within the renovation area would be removed (e.g.: restroom) or relocated to other District facilities (e.g.: bleachers, storage containers). It is assumed for this analysis that the entire site would be disturbed due to demolition, grading, utility installation, and construction activities.

Existing hardscapes within the renovation area would be demolished and disposed as described in 2.5.6 (Construction Equipment and Haul Trips). Excavated soils would be balanced onsite, with little to no import of soils required. However, drainage rock would be imported for the new track & field. Approximately 6,400 tons of rock would be imported to improve drainage, which calculates to approximately 300 haul truck loads.

2.5.3 Dewatering

If excavation, such as trenching for utilities, were to occur during or shortly after the rainy season (November through June), shallow groundwater may be encountered. According to a geotechnical investigation prepared for the project site (Brunsing Associates 2018), groundwater can occur within three to five feet of the ground surface. If dewatering is necessary, it would likely be accomplished by conventional pumping. However, installation of gravel drain blankets, geotextile fabric, and sumps could be used to facilitate dewatering and provide a reasonably dry working pad for subsequent fill placement and compaction. Water would either be disposed to the sanitary sewer or reserved for dust control.

2.5.4 Tree Removal

Project implementation would result in the removal of approximately four mature trees (two redwood, one 36-inch and one 18-inch; and two eucalyptus, one 24-inch and one 26-inch), including the memorial tree. All four trees are located within the renovation area and outside the riparian corridor. All tree removal and replacement would comply with the City of Sonoma Tree Ordinance. Trees to be planted as part of the Project are discussed in Section 2.4.6 (Landscaping).

2.5.5 Site Access and Staging

Equipment and materials staging would be located within the renovation area. Access for materials delivery is anticipated to be provided from the existing agricultural farm (terminus of Larkin Drive) or Denmark Street. The construction area, including staging and materials laydown areas, would be

fenced to restrict access by unauthorized persons. Construction workers would park within the renovation area or in SVHS Campus parking lots. The recently installed future building pad at the agricultural farm may be used for material storage. A job site trailer with portable sanitary facilities may also be established within the renovation area during construction.

2.5.6 Construction Equipment and Haul Trips

A variety of construction equipment would be used to construct the Project, including:

Backhoe	Forklift	Pick-up truck
Concrete mixer truck	Front-end loader	Roller
Dump truck	Grader	Scraper
Excavator	Turf installation equipment	

Most of the heavy equipment listed above would be used during the first two to three months of construction, primarily during site preparation and grading. The concrete mixer and pick-up trucks would be used throughout construction, including bleacher construction, track installation, and paving.

Approximately 15 to 20 construction workers would be on site per day. In addition, approximately 57 haul trips would occur during the demolition period, and approximately 300 haul trips would occur throughout the grading period. The temporal distribution of haul trips is not expected to be uniform during project construction, as it is dependent on varying construction activities and need for materials or off-haul.

Demolition debris, such as pavement and sod, would be off-hauled for recycling or composting. Materials with no practical potential for reuse would be disposed of at a regional landfill.

During installation of utility connections, one-way traffic controls may be employed on Denmark Street.

2.6 Operation and Maintenance

Following construction, athletic and special events that currently occur off-campus would begin occurring on-campus, with the exception of varsity baseball practice and games which would continue to occur at Arnold Field. Changes in event location are summarized in Table 2-3 (Change in Event Location from Project). The events are described in more detail below. In addition to the general maintenance activities that currently occur, such as landscaping, general repairs, natural turf field maintenance, and trash removal, maintenance also would include replacement of light fixtures and artificial turf.

2.6.1 Athletic and Special Field Events

SVHS Athletic and Special Event Use

The Project would allow the majority of existing SVHS team sports activities and SVHS special events that currently occur off-site to occur on the SVHS Campus.

The proposed track & field bleachers would accommodate 1,300 spectators. It is estimated that full capacity (2,500 attendees) would occur during two special events at the track & field: homecoming and graduation. Homecoming occurs once in the fall and graduation occurs once at the close of the school year. Additional, portable seating may be brought in during these two events.

As indicated in Table 2-2 (Project Athletic and Special Events), the athletic events that would attract the highest attendance would be the regular season varsity football games held on six Friday evenings from August through November. The typical Friday evening football schedule would begin with a JV game at 4:30 p.m., followed by a varsity game beginning at 7:00 or 7:30 p.m. Unless the game goes into overtime, a varsity football game would generally end at approximately 9:30 p.m. As spectators, athletes, and staff clear the track & field area, the track & field lighting would be lowered to a level to allow clean-up activities to proceed. Clean-up activities must occur after the event, so as not to leave rubbish to be scattered by wind or attract vermin. These activities would generally be conducted by hand, but an electric leaf blower may be used, as well. All clean-up and teardown activities would be complete by 11:00 p.m., at which time the track & field lighting would be completely extinguished.

In comparison to football games, attendance for other athletic events would be considerably smaller, ranging from 12 to 80 attendees, and one track & field event with up to 500 attendees. These other athletic events would occur throughout the school-year, many of which already occur at the existing SVHS athletic fields, with the same attendee range.

Public and Scheduled Non-School Use

The Project is not anticipated to increase the use of the athletic fields by community or other outside groups above that currently experienced by the site (see Table 2-2). Additionally, the facilities would remain open to the public when not closed during school hours or practice.

2.6.2 Lighting

Lights are anticipated to be used for approximately 50 events per year. Typically, once an activity requiring lights has ended, the lights would be dimmed. This would provide sufficient lighting for attendees to safely depart and for clean-up and breakdown. It is anticipated that clean-up and breakdown would take approximately one hour, after which the lights would be turned off. For example, for a varsity football game ending at 9:30 p.m., the lights would be dimmed at 9:30 p.m. and then typically be extinguished by 11:00 p.m. This would occur six times per year in the fall.

In addition, during daylight savings time (November through mid-March), lights could be used for events occurring after school hours, such as practices and games for soccer and lacrosse. These events would end by approximately 8 p.m. and occur approximately 40 times per year.

2.6.3 Public Address System

The PA system would be used during football games, track & field events, and graduation, and may also be used for soccer and lacrosse. The PA system would be limited to a maximum sound pressure of 55 dBA or less, measured at the property line.

Speakers would be field aimed and adjusted for full coverage of bleachers and the field. Equipment would be adjusted and tuned for optimal sound performance and reduction of unwanted sound toward residences to the extent possible. After installation, the District would retain a qualified acoustic engineer to test and program the public address system to ensure that noise does not exceed the sound pressure level of 55 dBA at the property line.

Table 2-2 Project Athletic and Special Events (moved to campus)

Event	Location	Months	Days	Annual Occurrences	Avg. Attendance per Event
SVHS BOYS SOCCER					
JV Soccer Games	Track & Field	Nov-Feb	Vary	6	30
Varsity Soccer Practice	Track & Field	Nov-Feb	M, W, F	48	22
Varsity Soccer Games	Track & Field	Nov-Feb	Varies	6	40
SVHS GIRLS SOCCER					
JV Soccer Games	Track & Field	Nov-Feb	Vary	8	35
Varsity Soccer Practice	Track & Field	Nov-Feb	M-F	80	16
Varsity Soccer Games	Track & Field	Nov-Feb	Varies	8	35
SVHS FOOTBALL					
JV Games	Track & Field	Aug-Nov	F	6	500
Varsity Games (Homecoming)	Track & Field	Aug-Nov	F	6	1,300 (2,500)
SVHS BASEBALL					
JV Practice	JV Baseball Field	Feb-May	M-F	80	20
JV Games	JV Baseball Field	Feb-May	M-F	12	40
SVHS LACROSSE					
LaCrosse Practice	Track & Field	Feb-May	M, W, F	48	20
LaCrosse Games	Track & Field	Feb-May	Varies	12	60
SVHS Track & Field					
Track & Field League Event	Track & Field	Feb-May	M-F	1	500
SVHS OTHER EVENTS					
Cheer Games	Track & Field	Aug-Dec	Varies	n/a	n/a
Senior Graduation	Track & Field	June	F	1	2,500

Source: Sonoma Valley Unified School District

Table 2-3 Change in Event Location from Project

Event	Change in Location
SVHS BOYS SOCCER	
JV Soccer Practice	None
JV Soccer Games	From Adele to On-Campus
Varsity Soccer Practice and Games	From Adele to On-Campus
SVHS GIRLS SOCCER	
JV Soccer Practice	None
JV Soccer Games	From Adele to On-Campus
Varsity Soccer Practice and Games	From Adele to On-Campus
SVHS FOOTBALL	
JV Practice	None
JV Games	From Arnold Field to On-Campus
Varsity Practice	None
Varsity Games	From Arnold Field to On-Campus
SVHS BASEBALL	
Frosh Practice and Games	None
JV Practice and Games	From Field of Dreams to On-Campus
Varsity Practice and Games	None (Remains at Arnold Field)
SVHS SOFTBALL	
JV and Varsity Practice and Games	None
SVHS LACROSSE	
LaCrosse Practice and Games	From Adele to On-Campus
SVHS TRACK & FIELD	
Track Practice and Competition	None
SVHS OTHER	
Cross-Country Practice	None
Cheer Games	From Arnold Field to On-Campus
Senior Graduation	From Arnold Field to On-Campus
NON-SVHS ON CAMPUS	
Babe Ruth Baseball	None
Adele Track & Field	None
Adele Soccer Team	None
Stack Traveling Softball	None
Sonoma Soccer Club	None
Sonoma Youth Soccer Association	None
Nor Cal Throwers	None
Girls on the Run	None

2.6.4 Access and Parking Management

Pedestrian access would continue to be provided at all existing access points surrounding the campus and would remain open during normal hours and regular events. During large events (football games and graduation), the gate at Denmark Street would be locked blocking pedestrian access from this neighborhood.

The new emergency vehicle access at Denmark Street would be used on an as-needed basis, in coordination with emergency service providers.

Adequate parking is provided on the existing SVHS Campus for all events except graduation and homecoming (W-trans 2019). To manage parking in general, and particularly during events with an anticipated attendance of 1,000 or more, the District would implement the following, and then reevaluate after each large event for modifications to future events:

- Include a map and/or description of appropriate on-campus parking, including over-flow parking that can be used during large events, in back-to-school materials, on the school website, in agreements with non-SVHS users, and provided to coaches to share with athletic team members and parents. The map and/or description also will include areas where parking is prohibited such as surrounding residential streets (General Practice);
- Provide on-campus way-finding signs directing pedestrians to the athletic fields (General Practice);
- Use of social and news media advisories leading up to events (Large Events);
- Post signs on campus and at pedestrian access points, at least one week in advance, advising of date and time of the event, appropriate parking locations, and that the Denmark Street pedestrian access will be locked (Large Events);
- Restrict pedestrian access at Denmark Street beginning 2 hours prior to the start of the event, to limit event parking in the residential neighborhoods (Large Event); and
- Provide parking attendants and signage for vehicular traffic control assistance at high school driveways for capacity events. As SVHS Campus parking fills, entry attendants will redirect cars to the parking lots at Adele Harrison Middle School and the Prestwood Elementary School. Provide signage to indicate when lot is full and where to re-direct. After the first year, traffic control assistance will be re-evaluated for its effectiveness, and a determination made as to what adjustments to traffic control assistance could be made to improve (Graduation).

2.6.5 Turf Maintenance and Replacement

The synthetic turf would be maintained in accordance with the manufacturer's guidelines. This would include litter and debris removal, occasional grooming, watering to remove spilled liquids, and an annual maintenance. The synthetic turf would be tested annually for G-max (a field's level of shock absorbency) using ASTM F1936 test method. With proper maintenance, a synthetic turf field should have a g-max of well below 200. The synthetic turf carpet would be replaced approximately every 8 years, which would occur at the end of each warranty period. Replacement activity would consist of removal and replacement of the carpet portion of the turf, and would not include substantial construction activity. The cork-infill can be reused for two cycles of carpet replacement.

2.7 Energy Use

Electrical energy for the Project would be provided by PG&E. Gasoline and other petroleum products used for this Project would be obtained from private retailers throughout the general area.

Energy-consuming equipment anticipated to be used during construction is listed above in Section 2.5. (Construction Activities). Worker vehicles travelling to and from the site during construction would utilize gasoline and other petroleum products. The precise amount of construction-related energy consumption is uncertain. However, construction would not be expected to require a large amount of fuel or energy usage because of the relatively moderate number of construction vehicles and equipment, worker trips, and truck trips that would be required for a project of this scale and duration. In addition, equipment idling times would be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes or less (as required by the California airborne toxics control measure Title 13, Section 2485 of the California Code of Regulations [CCR]).

Energy-consuming equipment anticipated to be used during operation of the Project includes mechanical and electrical equipment associated with the restroom/team/concession building, the PA system, and track & field lighting. The track & field lighting system would be comprised of 24 1,170-watt LED fixtures and 8 400-watt fixtures. The total power consumption of the system would be approximately 5,000 kilowatts per hour. The new building and other support structures would be designed in accordance with applicable design standards, including Title 24 Building Energy Efficiency Standards for non-residential buildings.

Motor vehicle trips associated with spectators to and from the athletic fields for sporting events and other activities would utilize energy in the form of petroleum products and electricity. It is noted that the Project would not constitute new energy consumption that would be associated with new vehicle trips, as the Project does not generate new activities or uses that would create new trips. The events proposed to occur at the renovated fields currently occur either at Arnold Field, Field of Dreams, or Adele Middle School. Therefore, keeping practices on the SVHS campus may reduce energy use from vehicles, as athletes who use the off-site facilities currently require bussing to and from off-site facilities.

Therefore, energy requirements for Project operation would not represent new energy demands, but rather, would redistribute energy demands from Arnold Field and Field of Dreams to the SVHS Campus. Bus trips for most sports' practices (except varsity baseball) would be reduced or eliminated and vehicle trips for games redistributed.

2.8 Project Minimization and Avoidance Measures

The Project would comply with the following measures and, thus, each measure is incorporated into the Project. The project's Mitigation Monitoring and Reporting Program will include these Project Measures to ensure implementation. The Project also will comply with the applicable regulations of federal, State, regional, and local agencies, as noted in each analysis section.

2.8.1 Project Design Feature 1: Air Quality Control Measures during Construction

To limit dust, criteria pollutants, and precursor emissions associated with construction, the following Bay Area Air Quality Management District (BAAQMD) recommended Basic Construction Measures

will be included in construction contract specifications and required during implementation of the project:

- All exposed soil surfaces (e.g., parking areas, staging areas, soil piles, graded areas and unpaved access roads) shall be watered as necessary to prevent visible migration of dust as airborne particulates;
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered or tarped;
- All visible mud or dirt tracked-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping shall be prohibited;
- All vehicle speeds on unpaved areas shall be limited to 15 miles per hour;
- All paving shall be completed as soon as possible after trenching work is finished;
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points;
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation;
- A publicly visible sign shall be posted with the telephone number and person to contact at the District regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

2.8.2 Project Design Feature 2: Stormwater Pollution Prevention Plan (SWPPP)

The project will seek coverage under State Water Resources Control Board (Water Board) Order No. 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-0006-DWQ), General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities. The District will submit permit registration documents (notice of intent, risk assessment, site maps, SWPPP, annual fee, and certifications) to the Water Board. The SWPPP will address pollutant sources, best management practices, and other requirements specified in the Order. The SWPPP will include erosion and sediment control measures, and dust control practices to prevent wind erosion, sediment tracking, and dust generation by construction equipment. A Qualified SWPPP Practitioner will oversee implementation of the project SWPPP, including visual inspections, sampling and analysis, and ensuring overall compliance.

2.8.3 Project Design Feature 3: Construction Noise Reduction Actions

The District and its contractors shall implement the following noise reduction actions, as appropriate and applicable, during construction of the project:

- Construction will be limited to between the hours of 8:00 a.m. and 6:00 p.m. on Monday through Friday, 9:00 a.m. to 6:00 p.m. on Saturday, and 10:00 a.m. to 6:00 p.m. on Sundays and holidays, in compliance with the City of Sonoma Municipal Code.
- Construction equipment will be well maintained and used judiciously to be as quiet as practical.
- "Quiet" models of air compressors and other stationary noise sources will be utilized where technology exists and when feasible.

- Unnecessary idling of internal combustion engines will be prohibited and all internal combustion engine-driven equipment will be equipped with intake and exhaust mufflers which are in good condition and appropriate for the equipment.
- All stationary noise-generating equipment, such as air compressors and portable power generators, will be located as far away as possible from residences, school buildings or other noise-sensitive land uses.
- All internal combustion engine-driven equipment will be equipped with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Radios will not be permitted at the project site during construction.
- Prior to the start of construction, the District will designate a “disturbance coordinator” who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. The District will conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.

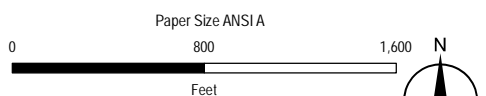
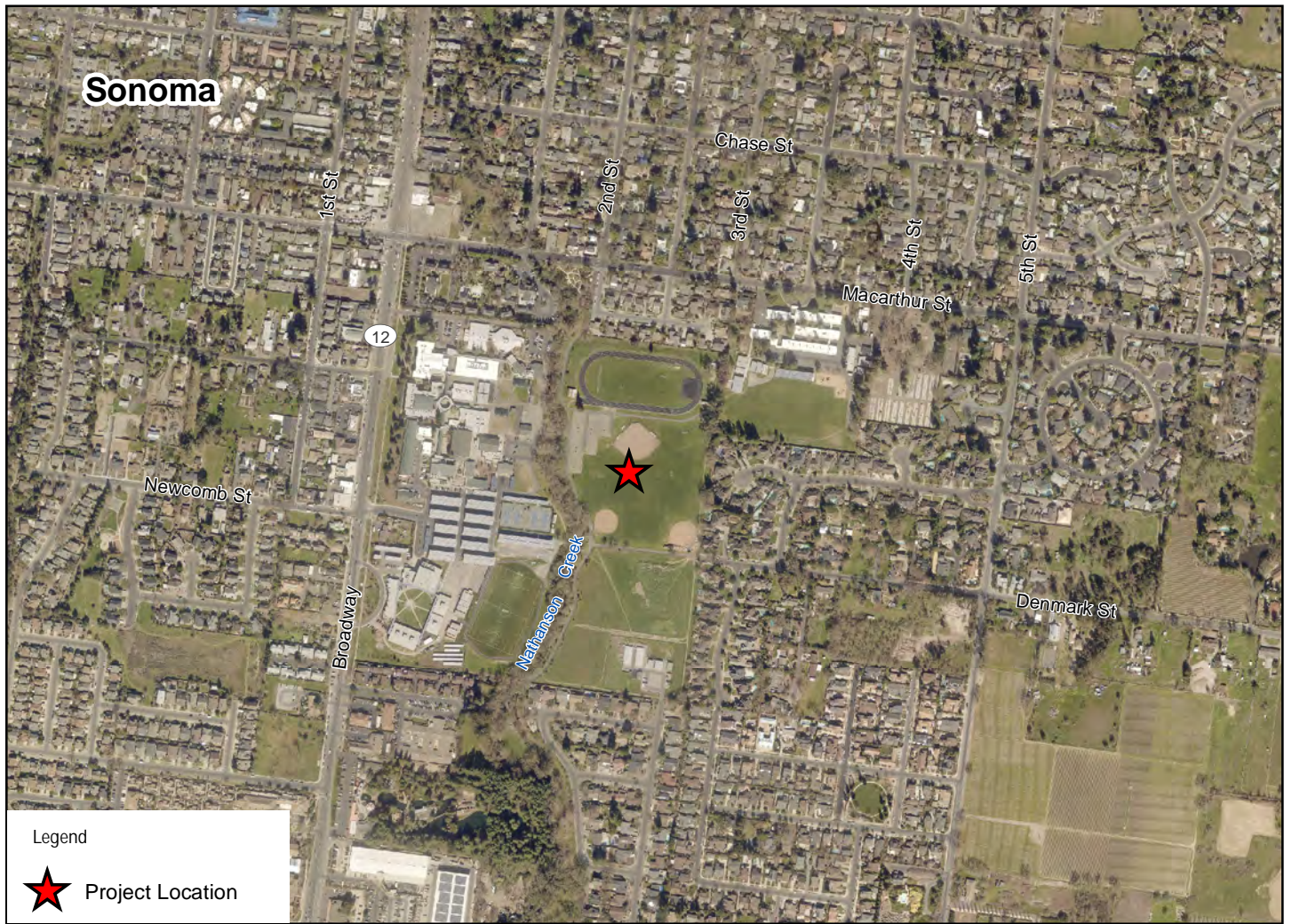
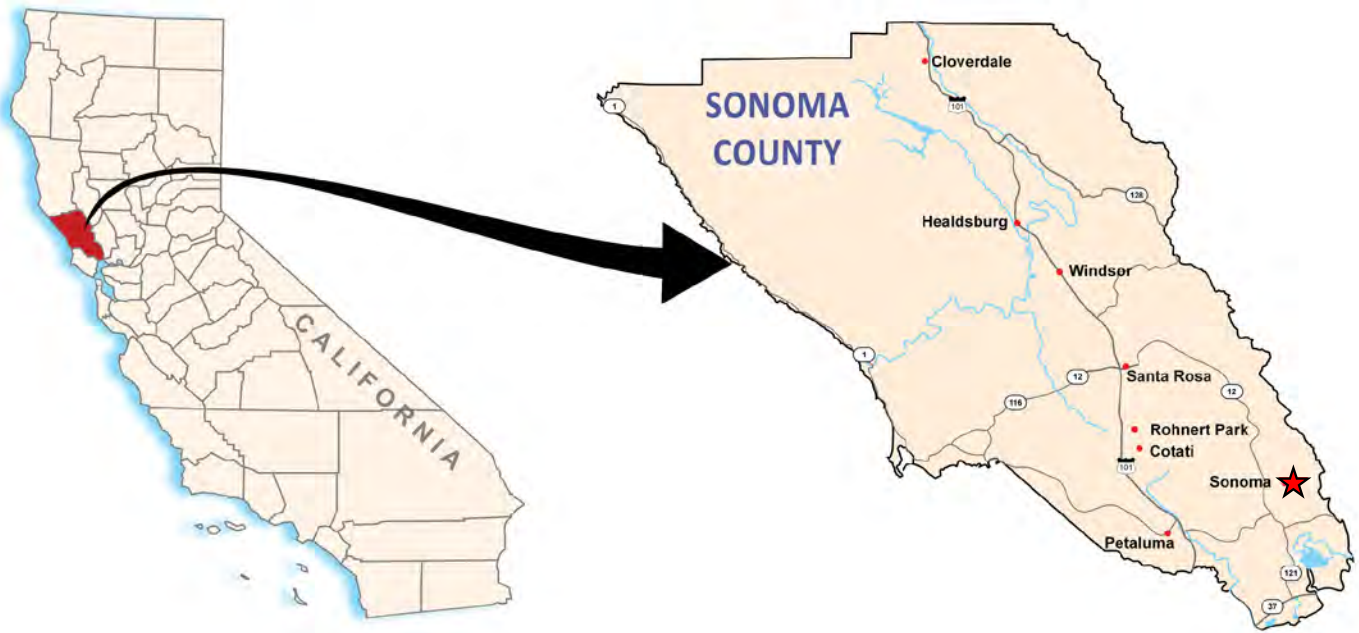
2.8.4 Project Design Feature 4: Implement Recommendations from Geotechnical Report

The District shall design and construct the Project in accordance with the *Geotechnical Investigation and Geologic Hazard Evaluation* (Brunsing Associates 2018) (Appendix E) and any related subsequent project-specific geotechnical documentation. This includes recommendations for site grading, foundation support, fill material composition, seismic design criteria, concrete slab support, site drainage, and geotechnical engineering observation and testing during earthwork construction. The diameter and length of drilled cast-in-place concrete piers for supporting field light structures shall be determined by a structural engineer, and shall be at least 18 inches in diameter and penetrate at least ten feet into suitable supporting soils. Professional inspection of foundation and excavation, earthwork and other geotechnical aspects of site development shall be performed during construction to ensure compliance with the recommendations.

2.9 Agency Approvals

In addition to the District utilizing this EIR when considering approval of the Project, the following permits or other approvals may be required.

- Division of the State Architect: The Project would be subject to plan review by the DSA.
- State Water Resources Control Board: The Project would disturb more than 1 acre, therefore preparation and implementation of a Construction Stormwater Pollution Prevention Plan (SWPPP) and Notice of Intent, would be required.
- Sonoma Valley County Sanitation District (Sonoma Water): If the Project were to require dewatering during construction, and the water were discharged to the sanitary sewer, a Temporary Discharge Permit would be required from Sonoma Water. Connection to the sanitary sewer also would require review and approval by Sonoma Water.
- City of Sonoma: Connection to potable water would require review and approval by the City as well as an encroachment permit for utility work within the right-of-way.



Map Projection: Lambert Conformal Conic
Horizontal Datum: NAD 1983 2011
Grid: NAD 1983 2011 StatePlane California II FIPS 0402 Ft US



Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project

Project No. 11152127
Revision No.
Date 09/09/2019

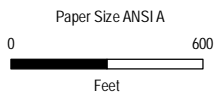
Regional Location Map

FIGURE 2-1

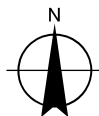


Legend

- Sonoma Valley High School Campus
- Athletic Fields Renovation Area
- X Existing Pedestrian Bridge



Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California II FIPS 0402 Feet



Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project

Project No. 11152127
Revision No.
Date 09/09/2019

Project Site

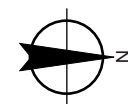
FIGURE 2-2

Data source: . Created by: mmremillard





Source: Carducci Associates and Quattrocchi Kwok Architects, October 2019



Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project

Project No. 11152127
Revision No.
Date 10/08/2019

Conceptual Site Plan

FIGURE 2-4

Filename: \\ghdnet\ghd\US\Sacramento\Projects\111\11152127 SVUSD Sonoma Valley HS CEQA\04-Technical Work\Figures\InDesign\ADEIR\Conceptual Site Plan.indd
Print date: October 8, 2019 3:45 PM



Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project

Project No. 11152127
Revision No. -
Date 09/09/2019

Visual Simulation Vantage Points

FIGURE 2-5



Source: Quattrocchi Kwok Architects, September 2019

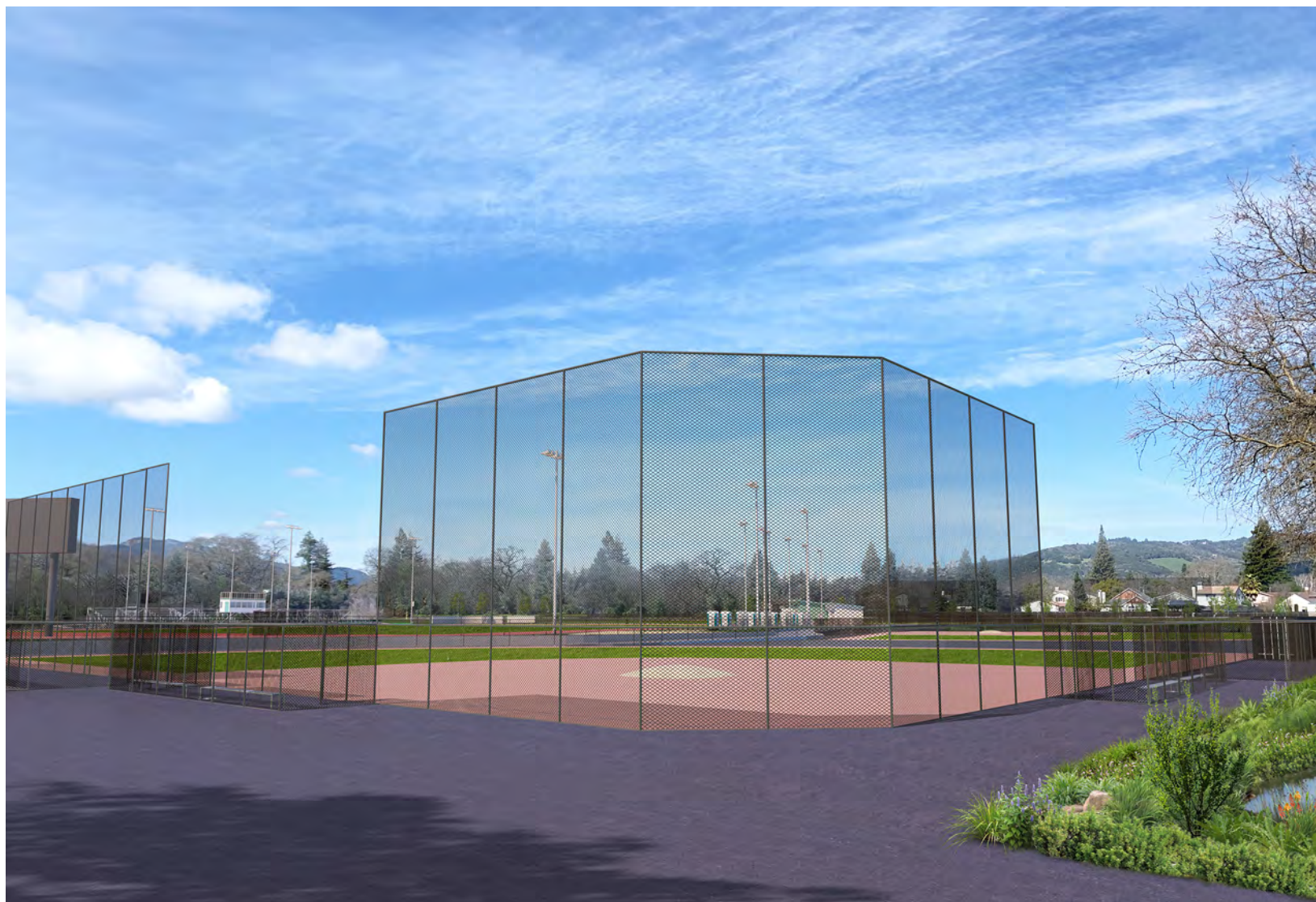


Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project

**Existing View 1:
From Denmark Looking North**

Project No. 11152127
Revision No. -
Date 09/09/2019

FIGURE 2-6



Source: Quattrocchi Kwok Architects, September 2019



**Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project**

**Project View 1:
From Denmark Looking North**

Project No. **11152127**
Revision No. -
Date **09/11/2019**

FIGURE 2-7



Source: Quattrocchi Kwok Architects, September 2019



**Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project**

Project No. 11152127
Revision No.
Date 09/09/2019

**Existing View 2:
From Denmark Looking South**

FIGURE 2-8



Source: Quattrocchi Kwok Architects, September 2019



**Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Field Renovations Project**

Project No. 11152127
Revision No.
Date 09/09/2019

**Project View 2:
From Denmark Looking South**

FIGURE 2-9



Source: Quattrocchi Kwok Architects, September 2019



**Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project**

Project No. 11152127
Revision No.
Date 09/09/2019

**Existing View 3:
From Walking Path Looking North**

FIGURE 2-10



Source: Quattrocchi Kwok Architects, September 2019



**Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project**

Project No. 11152127
Revision No.
Date 09/09/2019

**Project View 3:
From Walking Path Looking North**

FIGURE 2-11



Source: Quattrocchi Kwok Architects, September 2019



Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project

Project No. 11152127
Revision No.
Date 09/09/2019

Existing View 4:
From Larkin Looking North

FIGURE 2-12



Source: Quattrocchi Kwok Architects, September 2019



Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project

Project No. 11152127
Revision No.
Date 09/09/2019

**Project View 4:
From Larkin Looking North**

FIGURE 2-13



Source: Quattrocchi Kwok Architects, September 2019



**Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project**

Project No. **11152127**
Revision No.
Date **09/09/2019**

**Existing View 5:
From MacArthur Looking South**

FIGURE 2-14



Source: Quattrocchi Kwok Architects, September 2019



**Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project**

**Project View 5:
From MacArthur Looking South**

Project No. 11152127
Revision No.
Date 09/30/2019

FIGURE 2-15



Source: Quattrocchi Kwok Architects, September 2019



Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project

Project No. 11152127
Revision No.
Date 09/09/2019

Existing View 6:
From Broadway Looking East

FIGURE 2-16



Source: Quattrocchi Kwok Architects, September 2019



Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project

Project No. 11152127
Revision No.
Date 09/09/2019

Project View 6:
From Broadway Looking East

FIGURE 2-17

3. Environmental Analysis

Scope of Analysis

This Draft EIR analyzes the potential effects of the proposed Project on the environmental under the applicable environmental resource topics listed in the CEQA Guidelines Appendix G Initial Study Checklist. Four resource topics (agricultural & forestry resources, mineral resources, housing & population, and wildfire) have been identified as not applying to the Project, and are further discussed in Chapter 5 Other CEQA Required Sections, under “Effects Found not to be Significant.”

Each environmental resource area potentially impacted by the Project is addressed in its own section, numbered as follows:

- 3.1 Aesthetics
- 3.2 Air Quality
- 3.3 Biological Resources
- 3.4 Cultural and Tribal Cultural Resources
- 3.5 Geology, Soils, and Seismicity
- 3.6 Greenhouse Gas Emissions and Energy
- 3.7 Hazards and Hazardous Materials
- 3.8 Hydrology and Water Quality
- 3.9 Land Use and Planning
- 3.10 Noise
- 3.11 Public Services and Recreation
- 3.12 Transportation
- 3.13 Utilities and Service Systems

Each section of Chapter 3 contains the following elements:

Setting. This subsection presents a description of the existing physical environmental conditions in the Project area with respect to each resource area at an appropriate level of detail to understand the impact analysis. It describes existing conditions and provides a baseline by which to compare the potential impacts of the Project.

Regulatory Framework. This subsection provides a brief discussion of federal, State, and local regulations and policies that are relevant to the resource.

Significance Thresholds. This subsection provides the significance thresholds for evaluation of environmental impacts.

Methodology. The methodology subsection discusses the approach to the analysis.

The *City of Sonoma 2020 General Plan* and City Municipal Code were consulted as a source of local information, conditions, and context, as well as to provide rationale for certain impact determinations where other guidance was found to not exist or lacking.

Impacts and Mitigation Measures. This subsection evaluates the potential for the Project to significantly affect the physical environment described in the setting. Potential impacts are identified and characterized, and where feasible, mitigation measures are identified to avoid or reduce significant impacts to a less-than-significant level.

Cumulative Impacts and Mitigation Measures. Cumulative impacts are discussed in each environmental resource section following the description of the project-level impacts and mitigation measures. The cumulative impact analysis is based on the same setting, regulatory framework, and significance thresholds presented in each resource topic section. Additional mitigation measures are identified if the analysis determines that the Project's contribution to an adverse cumulative impact would be cumulatively considerable and, therefore, significant.

Significance Determinations

The significance thresholds for each environmental resource topic are presented in each section of Chapter 3. For the impact analyses, the following categories are used to identify impact significance:

No Impact if a resource is absent or if a resource exists within the Project area, but there is no potential that the Project could affect the resource.

Less-than-Significant Impact if there is a potential for some limited impact on a resource, but the impact is not significant under the significance threshold.

Significant Impact applies if there is the potential for a substantial adverse effect in accordance with the significance threshold. This term is used prior to application of mitigation measures.

Less than Significant Impact with Mitigation applies if there is the potential for a substantial adverse effect in accordance with the significance threshold, but mitigation is available to reduce the impact to a less than significant level.

Significant and Unavoidable Impact applies to impacts that are significant, and mitigation has been incorporated, but the mitigation does not reduce the impact to less than significant and there appears, or if no feasible mitigation exists.

Cumulative Scenario

CEQA requires the discussion of cumulative impacts. Cumulative impacts are defined as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts” (CEQA Guidelines Section 15355). Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time.

The cumulative impact analysis for each environmental resource topic is described in the appropriate subsections of this Chapter, following the description of Project impacts and mitigation measures. The geographic area considered for each environmental resource topic is defined in the cumulative impact analysis in each subsection of this Chapter.

Approach to Cumulative Impact Analysis

Two approaches to cumulative impact analysis are discussed in CEQA Guidelines Section 15130(b). The first approach utilizes a list of past, present, and probable future projects producing related or cumulative impacts. The second approach utilizes a summary of projections contained in an adopted

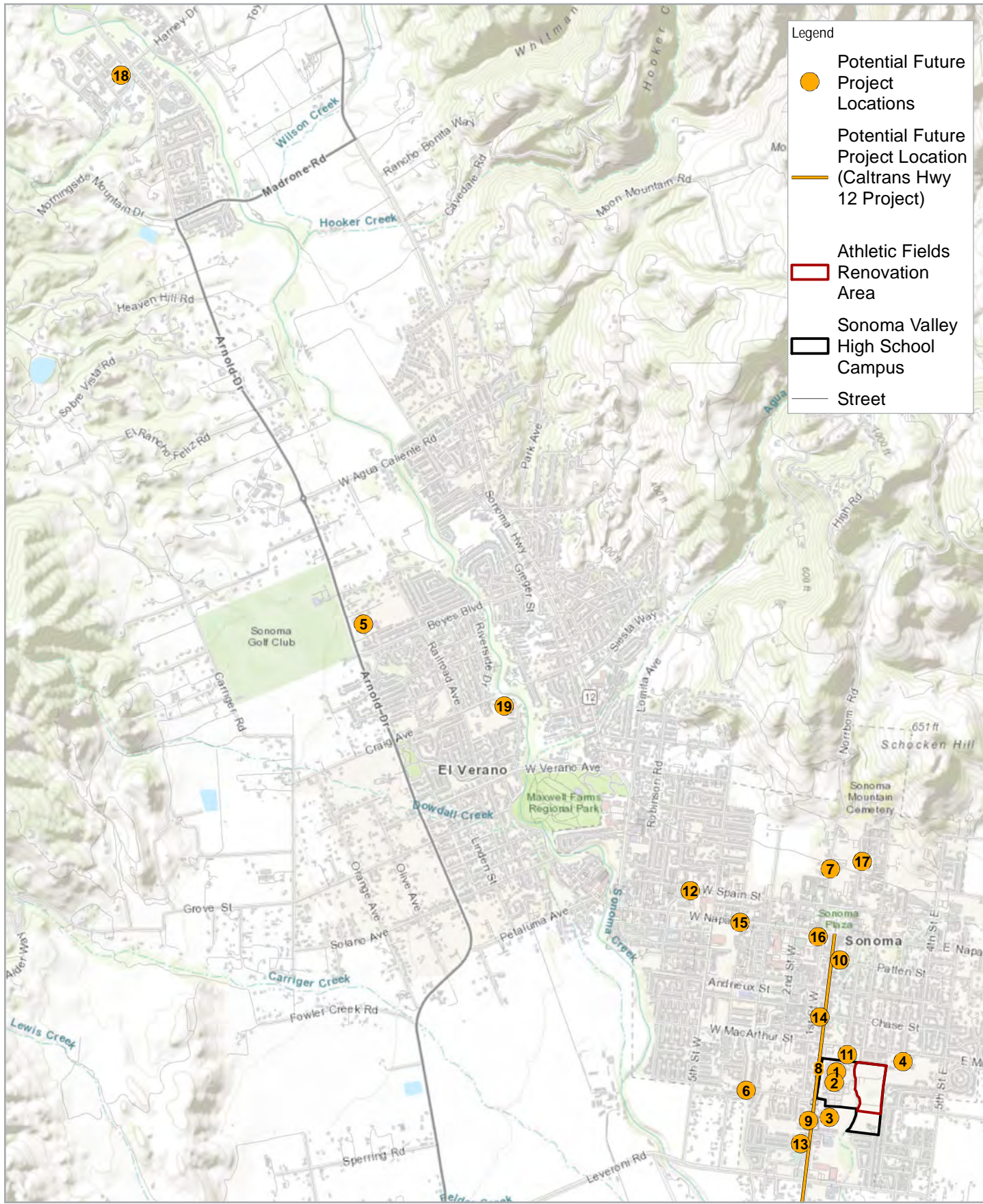
local, regional or statewide plan, such as a general plan or related planning document, or in an adopted or certified environmental document, which describes or evaluates conditions contributing to cumulative effects.

For this EIR, the cumulative project scenario has been identified using the list approach. Table 3-1 (Projects Considered for Cumulative Impacts) provides a list of past, present, and probable future projects that may produce related or cumulative impacts, including their anticipated construction schedules. Figure 3-1 (Location of Projects Considered in Cumulative Analysis), shows the location of the cumulative projects.

Table 3-1 Projects Considered for Cumulative Impacts

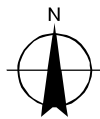
Project Name		Project Description	Estimated Construction Schedule	Pending /Approved	Project Location
1	SVHS/Sonoma Splash Pool	Community pool/aquatic facility.	2021	Pending	SVHS Campus
2	SVHS Facility Upgrade Projects	Construction and/or renovation of career technical shops, culinary classrooms, science building, and classrooms.	2021 - 2025	Approved	SVHS Campus
3	Adele Harrison Facility Upgrade Projects	Modernization of performing arts classrooms and athletic gym rooms.	2020	Approved	Adele Harrison Middle School
4	Prestwood Facility Upgrade Projects	Construction and modernization of front office, kitchen, stage, and multipurpose room.	2021-2022	Approved	Prestwood Elementary School
5	Altimira Middle School Track & Field Renovations Project	Renovation of existing track & field and parking lots.	Under construction	Approved	Altimira Middle School
6	Fryer Creek Pedestrian and Bicycle Bridge Project	Construction of a bicycle and pedestrian bridge over Fryer Creek and accessibility improvements to Newcomb Street and Fryer Creek Drive	2020	Approved	Newcomb Street near Fryer Creek
7	Depot Park First Street West Frontage Improvements Project	Reconstruction of drainage channel along Depot Park frontage.	2020	Approved	1 st Street West adjacent to Depot Park
8	Caltrans Highway 12 Restriping and Improvements	Road maintenance and rehabilitation of the state highway system. Including rehabilitation of Highway 12. Enhanced pedestrian crossing proposed at Sonoma Valley High School.	2020	Approved	Highway 12 through the City of Sonoma
9	1211 Broadway Planned Development	Six-unit planned development	2019/2020	Approved	1211 Broadway
10	3 Badge Use Permit	Use Permits application to convert into a restaurant.	Unknown	Pending	32 Patten Street
11	MacArthur Place	Expansion of the existing hotel; Use Permit amendment for 1,000 square feet of additional space.	2019-2020	Approved	29 E MacArthur Street

Project Name		Project Description	Estimated Construction Schedule	Pending /Approved	Project Location
12	Olivia Apartments	Development of ±1.5-acre site with a 30-unit apartment community.	2019-2020	Approved	655 West Spain Street
13	Altamira Apartments	48-unit affordable housing project for a 1.98-acre site.	2020	Approved	20269 Broadway
14	Gateway Mixed-Use Development Project	Mixed-use development featuring 8 apartment units, 23 townhouses, 8 flats, and 4,100 square feet of commercial space.	2019-2020	Approved	807 Broadway
15	Mockingbird Lane	Residential development featuring 20 primary residential units, on 18 residential lots, with 12 accessory dwelling units, and two duplex buildings (4 duplex units).	2019-2020	Approved	853 Fourth Street West
16	Sonoma Hotel	62-room hotel, 80-seat restaurant and spa, 115 off-street parking spaces and potential off-site parking.	Unknown	Pending	153 W Napa Street and 541 First Street W
17	Parkview	Redevelopment of a 2.6-acre site with an 80-bed senior residential care facility and 27 multifamily (apartment) residential units.	Unknown	Approved	216, 226, 254 First Street E
18	Sonoma Developmental Center (Eldridge)	No proposed project yet; vision indicates redevelopment of new educational and employment opportunities for Sonoma Valley and housing with an emphasis on affordable housing (very low, low, and moderate income), and housing for vulnerable populations; new institutional partners may include universities, colleges, government agencies, tribal entities, and nonprofit organizations.	Unknown	Pending	15000 Arnold Drive
19	El Verano Elementary School Project	The project would construct a new 7,000 square foot multi-purpose room building and relocation of five portable classrooms on campus. One 1,960 square foot portable classroom and associated site work.	2020-2021	Approved	18606 Riverside Drive



Paper Size ANSI A
0 1,000 2,000 3,000 4,000
Feet

Map Projection: Mercator Auxiliary Sphere
Horizontal Datum: WGS 1984
Grid: WGS 1984 Web Mercator Auxiliary Sphere



Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project

Project No. 11152127
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Location of Projects
Considered in Cumulative Analysis

FIGURE 3-1

3.1 Aesthetics

This section evaluates aesthetics-related impacts from implementation of the proposed Project. In addition to the analysis provided in this section, the following topic is related to aesthetics, but is evaluated elsewhere in this EIR:

- Compliance with the City of Sonoma Tree Ordinance is discussed in Section 3.3 (Biological Resources).

3.1.1 Existing Setting

Visual Character

Much of the City of Sonoma's small charm is derived from the backdrop of hillsides, the agricultural lands that border the City, and the creeks, riparian corridors, and parks that comprise the natural environment. Nathanson Creek, which flows from the northeastern corner of the City through the eastside residential neighborhoods, is one of three major creeks that flow through the City and borders the Project site to the west. The walking path, which runs along the east side of the creek, connects residential areas to the Nathanson Creek greenbelt and provide a means of passive recreation. Other surrounding land uses include low-density residential to the north, Prestwood Elementary School and low-density residential housing to the east, and Adele Harrison Middle School and residential housing to the south.

Existing Sources of Light

Existing sources of light at the Project site are limited to the parking area in the western portion of the site, immediately west of Nathanson Creek and south of the existing track & field facility. Light sources adjacent to the Project site include exterior lighting from adjoining residential properties along Denmark Street, Davila Court, and MacArthur Lane, and street lights along Denmark Street.

Views of the Project Site

Views of the Project site are limited to pedestrians and recreational users on the Sonoma City Trail, sports teams and visitors of the athletic fields, students and staff at the adjacent elementary and middle schools, and private residences along Denmark Street, and MacArthur Lane. The Project site is not visible from an officially State scenic highway.

Scenic Vistas/Resources

The City of Sonoma does not identify any specific scenic vistas, however, the City's General Plan does indicate that the surrounding hillsides and ridgelines, open space areas, creeks and riparian corridors, and trees present throughout the City are scenic resources to be protected. The General Plan also identified Four Corners (intersection of Broadway and Napa Road), located just south of the Project Site, as one of the primary gateways to Sonoma.

General Plan Land Use Designations, Zoning, and Municipal Code

The General Plan land use designation for the site is Public and the zoning is a P (Public Facilities) District. The P zoning district applies to areas appropriate for a variety of public and quasi-public land uses.

The City of Sonoma's municipal code provides project planning and design guidelines for various planning areas throughout the City. There are 13 planning areas within the City based on the time periods and types of development and land uses that characterize each area. Each planning area has their own specific standards to ensure all projects within the area are designed to enhance and maintain the most desirable characteristics unique to each area of the City. The Project site is located partially in the Southeast Planning Area and partially in the Broadway Corridor. The Southeast Planning Area is roughly bounded on three sides by major collector streets, with Nathanson Creek forming the western boundary. The Broadway Corridor generally spans between Nathanson Creek and First Street West and extends north to Patten Street and south to Clay Street.

3.1.2 Regulatory Framework

Federal

There are no federal plans, policies, regulations, or laws related to aesthetics applicable to this Project.

State

California Scenic Highway Program

The California Department of Transportation (Caltrans) administers the California Scenic Highway Program (Streets and Highways Code, Section 260 et. Seq.) to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. A highway may be designated scenic depending upon the amount of the natural landscape that can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.

There are no officially designated California scenic highways or roadways in the study area; however, Highway 12, in the City of Sonoma, just east of the Sonoma Substation is "eligible" for a state scenic highway designation (Caltrans, 1999). Highway 12, as it enters the City of Sonoma and turns to Broadway (i.e., the "Four Corners" area), is characterized by various commercial developments, restaurants, a convenience store, and residences (single-family and apartments).

Nighttime Sky – Title 24 Outdoor Lighting Standards

The California legislature passed a bill in 2001 requiring the California Energy Commission (CEC) to adopt energy efficiency standards for outdoor lighting for both the public and private sectors. The CEC adopted changes to Title 24, parts 1 and 6, Building Energy Efficiency Standards, which included changes to the requirements for outdoor lighting for residential and non-residential development. The standards regulate lighting characteristics such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off.

Regional and Local

The *City of Sonoma 2020 General Plan* and Municipal Code were consulted as a source of local information, conditions, and context, as well to provide rationale for certain impact determinations where other guidance was found to not exist or lacking.

City of Sonoma General Plan

The following policy from, from the Environmental Resources Element of the *Sonoma 2020 General Plan* is related to aesthetics and applicable to the Project.

Policy 2.3 Protect and, where necessary, enhance riparian corridors.

City of Sonoma Municipal Code

The following sections of the Municipal Code are related to the Project site.

Chapter 19.22 Southeast Planning Area, Section 020 Project Planning and Design

4. Natural Features. Significant environmental amenities, including Nathanson Creek, related riparian areas, and mature oak trees, shall be preserved by being incorporated into site plan design and layout. Appropriate enhancement or protective measures shall be included in plans where determined necessary by the planning commission. See landscaping standards and design guidelines (SMC 19.40.060), and the tree preservation ordinance for specific tree preservation requirements and guidelines. Environmental features of lesser significance should be incorporated into project site plans when appropriate if justified by the quality of the feature and its relation to the site.

The high school and middle school should be integrated with the surrounding area, not set apart. Parking, fields, lights, and buildings should be carefully placed to minimize conflicts with adjacent residences.

Chapter 19.32 Broadway Corridor, Section 020 Project Planning and Design Standards

4. Natural Features. Natural environmental amenities including creeks, streams and other drainage courses; and mature trees shall be preserved by being incorporated into site plan design and layout. Appropriate enhancement or protective measures shall be included in plans where determined necessary by the planning commission. See creek development (SMC 19.40.020) and landscaping standards and design guidelines (SMC 19.40.060), and the tree preservation ordinance for specific tree preservation requirements and guidelines.

The high school and the new middle school should be integrated with the surrounding area, not set apart. Parking, fields, lights, and buildings should be carefully placed to minimize conflicts with adjacent residences.

Chapter 19.40.130 Protection of Scenic Vistas

A. Purpose. It is the purpose of this section to provide standards for the protection of important scenic vistas throughout the city as identified in the General Plan, Community Development Element (Town Design).

B. Applicability. The provisions of this section apply to any new development for which a discretionary planning or subdivision permit is required that has the potential to affect any of the scenic vistas identified in the General Plan.

C. Scenic Vista Defined. For the purpose of this section, a "scenic vista" means a public view, benefitting the community at large, of significant features, including hillside terrain, ridgelines, canyons, geologic features, and community amenities (e.g., parks, landmarks, permanent open space).

3.1.3 Evaluation Criteria and Significance Thresholds

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized in Table 3.1-1 (Evaluation Criteria and Significance Thresholds) are used to determine if the Project would have a significant effect related to aesthetics and lighting.

Table 3.1-1 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
AES-1: Would the project have a substantial adverse effect on a scenic vista?	Major alteration of a view from a scenic vista or major obstruction in viewed area towards a scenic vista.	CEQA Guidelines Appendix G, Checklist Item I (a)
AES-2: Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	Affect a scenic resource within view of a roadway designated as scenic by Caltrans.	CEQA Guidelines Appendix G, Checklist Item I (b) California Scenic Highway Program
AES-3: Would the project conflict with applicable zoning and other regulations governing scenic quality?	Conflict with the City of Sonoma's General Plan goals and policies related to visual character (see Section 3.1.2, Regulatory Framework).	CEQA Guidelines Appendix G, Checklist Item I (c) City of Sonoma General Plan 2020 City of Sonoma Municipal Code
AES-4: Would the project create a new source of substantial light or glare which would adversely affect day or night-time views in the area?	Creation of an illumination level greater than 0.74 foot-candle on any property within a residential zoning district during pre-curfew hours and 0.27 foot-candle during post-curfew hours. Creation of glare greater than 5,000 candela at adjacent residential properties	CEQA Guidelines Appendix G, Checklist Item I (d) Institute of Lighting Engineers 2011 MUSCO Analysis 2019

3.1.4 Approach to Analysis

Visual impacts are assessed by estimating the amount of visual change introduced by a project's components, the degree to which visual changes may be visible from scenic highways and scenic vistas, or other publicly accessible vantage points, and consistency with zoning and other local regulations governing scenic quality. Visual changes are assessed from publicly-accessible viewpoints and usually measured by three factors:

- the amount of visual contrast that project components create (changes to form, line, color, texture, and scale in the landscape);
- the amount of view obstruction (loss of view) that occurs; and
- the degradation of specific scenic resources (e.g., removal of heritage trees or impacts on scenic vistas).

To aid in the analysis of visual impact, six simulations from publicly-accessible viewpoints (Figure 2.5) surrounding the renovation area have been developed. These simulations include the existing conditions at these viewpoints and then the site with the proposed improvements in place (Figures

2.6 to 2.17 in Chapter 2). These simulations were produced from accurately scaled, three-dimensional computer models of the proposed improvements. Simulation photos were taken with a “normal” camera lens setting (roughly 50 mm or 40 degree horizontal angle of view) to approximate the sense of scale that would be experienced by viewers in the field.

To determine the aerial extent of potential light trespass, this analysis utilizes a lighting model, produced by MUSCO Lighting, Inc., to estimate light spill beyond the renovation area within the Project Site. The modelled foot-candle readings are taken at the boundary of the track & field/football field and across adjacent properties (Appendix B).

In order to evaluate potential impacts resulting from the use of lighting, standards developed by the Institution of Lighting Engineers (ILE), the Illuminating Engineering Society of North America (IESNA), and the Electric Power Research Institute (EPRI), were used as the basis to determine if illuminance produced by the Project would be significant. Light trespass varies according to surrounding environmental characteristics and, as such, the IES Lighting Handbook, 10th Edition, utilizes a concept of “Nighttime Outdoor Lighting Zones” ranging from LZ0 (most sensitive) to LZ4 (least sensitive) (IES 2011). Although Title 24 outdoor lighting requirements do not apply to sports lighting, the identified lighting limits for these lighting zones and corresponding trespass illuminance limits are consistent with California’s Building Energy Efficiency Standards (Title 24) outdoor lighting requirements for subject facilities. Areas of rural character, which have few existing sources of light, are more susceptible to impacts resulting from new lighting sources. By contrast, urbanized areas are characterized by a large number of existing lighting sources and are, therefore, less susceptible to adverse effects associated with new lighting sources. Consequently, lighting zone designations are applied according to the amount and intensity of existing lighting sources in the area. The Project Site and surrounding area is categorized as LZ3 (urban areas, as defined by the 2010 U.S. Census), which denotes areas with moderately high ambient lighting. The recommended LZ3 light trespass standard is 8 lux (a unit of illuminance equal to one lumen per square meter) during “pre-curfew hours” (prior to 11:00 p.m.) and 3 lux during “post-curfew hours” (IES 2011). This equates to 0.74 candle foot during pre-curfew hours and 0.27 candle-foot during post-curfew hours (after 11:00 p.m.).

Therefore, it has been determined that light trespass impacts may be considered significant if illuminance produced by the Project would exceed 0.74 foot-candle before 11:00 p.m. (i.e., “during pre-curfew hours”, or end of event) and 0.27 foot-candle during post-curfew hours (i.e., after 11:00 p.m.) at residential buildings adjacent to the site. In determining if a significant impact would occur, consideration is also given to whether exceedance of these standards is expected to adversely affect a substantial number of people. Detailed mapping of the horizontal and vertical spill is provided in Appendix B.

3.1.5 Impacts and Mitigation Measures

Table 3.1-2 (Summary of Impacts – Aesthetics) provides a summary of potential impacts from the Project.

Table 3.1-2 Summary of Impacts – Aesthetics

Impact	Project Significance
AES-1: Would the project have a substantial adverse effect on a scenic vista?	LS
AES-2: Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	LS
AES-3: Would the project conflict with applicable zoning and other regulations governing scenic quality?	NI
AES-4: Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	LS
AES-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to visual resources?	LS

Notes: NI = No Impact

LS = Less than Significant

LSM = Less than Significant with Mitigation

Impact AES-1: Would the project have a substantial adverse effect on a scenic vista?

A scenic vista can generally be defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the public. According to the *City of Sonoma 2020 General Plan*, views of hillsides, agricultural lands, open space areas, creek and riparian areas, trees, and wildlife habitat areas are scenic resources to be protected. Similarly, the City's Municipal Code defines scenic vistas as public views of hillside terrain, ridgelines, canyons, geologic features, and community amenities.

As demonstrated in the visual simulations, long-range views of the Sonoma Mountains, other surrounding hillsides, and the riparian corridor of Nathanson Creek can be seen from Denmark Street looking north (Figure 2.6), Denmark Street looking south (Figure 2.9), from the existing walking path (Figure 2.10), and from Larkin Street (Figure 2.12).

The Project would renovate the existing athletic fields. The renovated track and sports fields and stormwater detention basin would be ground level and therefore would have no potential to impact public views of the surrounding hillsides. The associated facilities, however, would be elevated and visible to varying degrees from certain locations.

The associated facilities that would be more prominently visible from public vantage points would include the 30-foot tall PA system poles, 70-foot tall lighting poles, bleachers/press box, fencing, scoreboard and building.

To demonstrate the visual conditions after installation of the athletic facilities, visual simulations were prepared from six vantage points surrounding the Project Site. Of the six viewpoints, the tallest facility, the sports lighting, would be visible from five locations: Denmark North, the existing walking path, Larkin Drive, MacArthur, and Broadway. The speaker poles would be visible from three locations: Denmark North, the existing walking path, and MacArthur.

The existing view from Denmark looking north (Figure 2.6) consists of the softball field, fencing, and benches, with the Sonoma Mountains peaking above the trees

along the riparian corridor of Nathanson Creek and an unobstructed view of the hillside to north. The Project view (Figure 2.7) would be similar with the renovated softball field, fencing, and benches in the foreground. However, in the background can be seen six of the eight light poles, ten of the 12 speaker poles, the home bleachers/press box, scoreboard, and building. From this distance both the PA system and light poles are thin and spread fairly apart, thus avoiding massing. In addition, light fixtures sit above the ridge line of the hills. While the poles do sit within the view, they do not obstruct the view of either the riparian corridor or the Sonoma Mountains. Although the proposed softball fencing is taller than the existing fencing, the northern edge of the proposed fencing situated in the same position as the existing, thus the view of the hillside to the north remains the same. The general view of the athletic fields at this viewpoint would remain that of athletic facilities and views of the Sonoma Mountains, riparian corridor, and hillside would continue to be visible with implementation of the Project.

From Denmark looking south, the existing view includes an open grass field, mid-range views of several residences, along with trees lining the riparian area beyond the edge of the field and along a portion of the walking path (Figure 2.8). Views of hillsides in the background are almost entirely obstructed by the existing riparian vegetation. With implementation of the Project, fencing would be installed along Denmark paralleling the basketball court area (Figure 2.9). Although the fencing appears to obstruct the riparian corridor from view, trees are still visible over the top and would be more visible as pedestrians along the path moved through the site. The newly installed basketball courts would be visible, although slightly screened by the new fencing. Although this viewpoint would change, as compared to existing conditions, the overall renovation area is consistent with that of an athletic facility. In that regard, the view from Denmark looking south would be consistent with the overall nature of the site. Views of the riparian corridor are accessible from many other vantage points in the immediate vicinity, including from further east along Denmark Street approximately 300 feet from of where this simulation was modelled.

From the walking path, the existing view consists of the baseball, fencing, and benches in the foreground, and the hillsides in the background (Figure 2.10). Several existing trees are scattered along the edge of the school property and residential backyards, thus obscuring some of the view of the hillsides. Similar to the current view, with implementation of the Project athletic facilities would exist within this view shed including the track & field and fencing. New components would include the building, and the PA system and light poles (Figure 2.11). The building would sit low and below the view of the hillsides. Although the sports lighting and PA system poles would be visible in the view, they would not significantly block or affect scenic views from the walking path.

From Larkin Drive, the existing and Project view are virtually the same. Two light poles would be visible above the roofline of the agricultural classroom, however, they are barely noticeable with no obstruction of the view occurring, and therefore would not impact the scenic hillsides from this viewpoint (Figure 2.13).

From MacArthur looking south, the existing view is of athletic facilities, including fencing and athletic field, with the riparian corridor in the background (Figure 2.15). In the Project view the light and PA system poles, home bleachers, and scoreboard are visible (Figure 2.15). However, the hillsides are screened from view due to the existing vegetation present. Therefore, no impact to the scenic hillsides would occur. While the poles are in the view of the riparian corridor, they do not obstruct the view as the poles are thin and the light fixtures sit above the tree line.

From Broadway looking east, the tops of two of the light fixtures are visible, however they almost disappear from view against the backdrop of the trees and the hillsides (Figure 2.17). Although one of the light poles overlaps with the hillsides, due to the distance of the lights from Broadway and existing intervening vegetation of similar height, the lights would barely be noticeable, having a less than significant impact on views from Broadway.

Based on the visual simulations, although the renovations would be within the various view sheds, the overall character and use of the fields would not change and the more prominent Project features, such as the light and PA system poles and scoreboard, would not obstruct views of the Sonoma Mountains, surrounding hillsides, or riparian corridor. Therefore, impacts to scenic vistas would be **less than significant**.

Significance: *Less than Significant*

Mitigation No mitigation is required.

Impact AES-2: Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

California State Route (SR) 12, also known as Broadway, borders the western side of the Project Site. Bordering the Project Site, SR 12 is an eligible scenic highway, transitioning to an officially designated scenic highway approximately 3.5 miles northwest of the Project Site, just north of Aqua Caliente (Caltrans 2018).

The only renovation that would be visible from SR 12 (Broadway) would be two of the lighting poles and fixtures (Figure 2.17). As noted above, under AES-1, given the distance of the light poles from Broadway, the angle at which they are positioned back from the road, and the existing intervening vegetation of similar height, the light poles would barely be noticeable to a passing vehicle. In addition, SR 12 fronting the Project site is designated only as an eligible state scenic highway. No Project improvements would be visible from the portion of SR 12 designated as a State scenic highway. Therefore, the impact to scenic resources within a State scenic highway would be **less than significant**.

Significance *Less than significant*.

Mitigation No mitigation is required.

Impact AES-3: Would the project conflict with applicable zoning and other regulations governing scenic quality?

As stated in the City's municipal code, Planning Areas were created to preserve the unique characteristics of regions within the City constructed in the same time period and/or which containing specific types of development and land uses. Each planning area has their own specific standards to ensure all projects within the area are designed to enhance and maintain the most desirable characteristics unique to each area of the City. The Project site is located partially within the Southeast Planning Area and partially within the Broadway Corridor. Both Planning Areas include the same design guideline that states the high school should be integrated with the surrounding area and parking, fields, lights, and buildings should be carefully placed to minimize conflicts with adjacent residences. The proposed improvements would be located within the existing footprint of the SVHS Campus. The proposed improvements would renovate the existing fields and provide additional athletic-related amenities. The improvements would be consistent with the existing character of the site, as the use and facilities would generally remain the same. Those parts of the renovations that provide the most change to the site (i.e.: lights, PA system, and home bleacher seating) would be located centrally within the renovation area and away from the adjacent neighborhoods. The placement of the lights was strategic, in that they were located within the interior of the Project Site, set back several hundred feet, to minimize conflicts with the surrounding residential areas. The residential areas which have direct full views of the lighting poles include those along Brockman Lane, Davila Court, and MacArthur Lane, with partial views from Fine Avenue. Although the new lighting poles are partially or fully visible to these neighboring residences, they occupy a portion of the overall views through the athletic facilities and are set back several hundred feet from the closest residences. As lighting is a typical feature at athletic facilities it is not anticipated to be inconsistent with the aesthetic quality of the site, nor would it conflict with the residential areas in the vicinity of the site. As the renovation area would still continue to provide space for athletics, and the more visually noticeable improvements have been located central to the site, no conflict is anticipated to occur from the renovated fields and facilities.

For a full analyses of the impact lighting would have on the surrounding area refer to Impact AES-4 below.

Therefore, the Project would not conflict with any applicable zoning or other regulations governing scenic quality. There would be **no impact**.

Significance *No Impact*

Mitigation No mitigation is required.

Impact AES-4: Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Construction

Nighttime construction work is not anticipated to be required for the Project. Therefore, no exterior lighting would be required during construction, and **no impact** would occur during this phase.

Operation

The Project improvements would be located within a largely built-out area where night-time lighting currently exists, including existing exterior lighting present on surrounding residential properties, as well as street lighting. The sports lighting would be installed within the interior of the Project Site, located a minimum of 250 feet away from the surrounding residential units. The proposed sports lighting would be shielded, and focused down onto the track and football field. The luminaires would be Total Light Control (TLC) LED, which minimizes light spill from the target area and glare on the adjacent properties. The majority of field activities, such as practices, would occur during daylight hours. However, JV/varsity football games, JV/varsity soccer games, and Lacrosse games would be held after daylight hours from August through February, when the sun sets as early as 4:49 p.m. (Time and Date 2018). The sports lighting would only be used during those events, and would be turned off after they conclude and clean-up activities have been completed. The latest lights are anticipated to be on is 11:00 p.m. for football games, which would occur 6 times per year in the fall. Soccer and lacrosse would end earlier, at around 8:00 p.m.

As described above in Section 3.1.4 (Approach to Analysis) light trespass impacts may be considered significant if illumination produced by the Project would exceed 0.74 foot-candle before 11:00 p.m. (pre-curfew) and 0.27 foot-candle after 11:00 p.m. (post-curfew). The lighting fixtures are lined up with the edge of the visitor's bleachers. Per the MUSCO analysis, the lights would result in a 9.34 foot-candle from the egress of the visitor bleachers, which is located approximately 250 feet away from the property line. At the property line, located approximately 250 feet away from the lighting fixtures, a 0.0 foot-candle horizontal spill (with a maximum 0.01 foot-candle) and 0.0 foot-candle vertical spill (with a maximum 0.03 foot-candle) would occur. Therefore, the Project would result in a **less-than-significant** impact regarding the creation of a new source of light.

Glare impacts are generally measured based on the amount of candela produced by the lighting source. High Glare is defined as 150,000 candela or more, Significant Glare is 5,000 to 75,000 candela, and Minimal to No Glare is defined as 500 candela or less. As shown in Figure 3.1-1, the glare that can be measured is fully contained within the Project Site. At the closest point to a residence, it reduces to less than 250 candela at approximately 75 feet. No glare would spread onto the adjacent properties or roadways. While the lights would be evident to people passing-by when in use, they would constitute a **less-than-significant** impact for glare and light trespass.

Significance	<i>Less than Significant</i>
Mitigation	No mitigation is required.

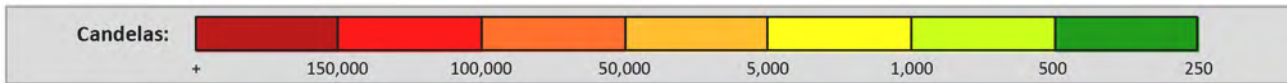
3.1.6 Cumulative Impacts

Impact AES-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to visual resources?

The geographic scope for the analysis of cumulative impacts on visual resources consists of the Project Site and the immediate vicinity around the Site. Refer to Section 3 (Environmental Analysis), Table 3-1 (Projects Considered for Cumulative Analysis) and Figure 3-1 (Location of Cumulative Projects), for a summary of the cumulative projects.

The proposed Project would result in less than significant impacts related to impacting scenic vistas, conflicts with applicable regulations, and the creation of a new source of light and glare. The cumulative projects listed in Table 3-1 are generally located too far away from the Project Site to contribute to a cumulative aesthetic impact, with exception to the Adele Harrison Facility Upgrade Project, the MacArthur Place Project, and the Caltrans Highway 12 Restriping and Improvements Project. All of the above-listed projects would result in the presence of construction equipment, however, this would be short-term and confined to the individual project's respective construction phases. The Caltrans Highway 12 Restriping and Improvements Project is merely a maintenance project and would only have temporary impacts. Adele Harrison Upgrades and the MacArthur Place Project would both improve existing facilities/buildings. Once completed neither would result in permanent aesthetic impacts. None of the above-listed projects would alter existing views of scenic vistas, conflict with applicable regulations or create a new source of light or glare. Therefore, the Project would not contribute to a cumulative aesthetic impact.

Significance	<i>Less than Significant</i>
Mitigation	No mitigation is required.



GLARE IMPACT

Summary

Map indicates the maximum candela an observer would see when facing the brightest light source from any direction.

A well-designed lighting system controls light to provide maximum useful on-field illumination with minimal destructive off-site glare.

GLARE

Candela Levels

High Glare: 150,000 or more candela

Should only occur on or very near the lit area where the light source is in direct view. Care must be taken to minimize high glare zones.

Significant Glare: 25,000 to 75,000 candela

Equivalent to high beam headlights of a car.

Minimal to No Glare: 500 or less candela

Equivalent to 100W incandescent light bulb.

Source: MUSCO Lighting, September 4, 2019



Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project

Project No. 11152127
Revision No.
Date 09/09/2019

Glare Impact

FIGURE 3.1-1

3.2 Air Quality

This section evaluates potential environmental impacts related to air quality during construction and operation of the Project. In addition to the analysis provided in this section, the following subjects are related to air quality, but are evaluated in other sections of this EIR:

- Potential impacts to greenhouse gas emissions are addressed in Section 3.6 (Greenhouse Gas Emissions and Energy).

3.2.1 Existing Setting

San Francisco Bay Area Air Basin

The Project site is located in Sonoma County, which is within the San Francisco Bay Area Air Basin. Ambient concentrations of air pollutants in the Project area are a product of the quantity of pollutants emitted by local sources and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect air quality and pollutant transport and dilution include terrain, wind, atmospheric stability, and the presence of sunlight.

The Sonoma Valley is west of the Napa Valley. It is separated from the Napa Valley and from the Cotati and Petaluma Valleys by mountains. The Sonoma Valley is long and narrow, approximately 5 miles wide at its southern end and less than a mile wide at the northern end.

The climate is similar to that of the Napa Valley, with the same basic wind characteristics. The strongest upvalley winds occur in the afternoon during the summer and the strongest downvalley winds occur during clear, calm winter nights. Prevailing winds follow the axis of the valley, northwest/southeast, while some upslope flow during the day and downslope flow during the night occurs near the base of the mountains.

As in the Napa Valley, the air pollution potential of the Sonoma Valley could be high if there were significant sources of pollution nearby. Prevailing winds can transport local and nonlocally generated pollutants northward into the narrow valley, which often traps and concentrates the pollutants under stable conditions. The local upslope and downslope flows set up by the surrounding mountains may also recirculate pollutants.

However, local sources of air pollution are minor. With the exception of some processing of agricultural goods, such as wine and cheese manufacturing, there is little industry in this valley. Increases in motor vehicle emissions and wood smoke emissions from stoves and fireplaces may increase pollution as the valley grows in population and as a tourist attraction (BAAQMD 2017a).

Criteria Air Pollutants and Effect

The California Air Resources Board (ARB) and the U.S. Environmental Protection Agency (EPA) currently focus on the following air pollutants as indicators of ambient air quality: ozone, carbon monoxide (CO); nitrogen dioxide (NO₂), sulfur dioxide (SO₂); and particulate matter (PM). Because these are the most prevalent air pollutants known to be deleterious to human health and extensive health-effects criteria documents are available, they are commonly referred to as criteria air pollutants.

Ozone

Ground-level ozone is the principal component of smog. Ozone is not directly emitted into the atmosphere, but instead forms through a photochemical reaction of reactive organic gases (ROG) and nitrogen oxides, which are known as ozone precursors. Ozone levels are highest from late spring through autumn when precursor emissions are high and meteorological conditions are warm and stagnant. Motor vehicles create the majority of ROG and nitrogen oxide emissions in the Cotati Valley sub-region. Exposure to levels of ozone above current ambient air quality standards can lead to human health effects such as lung inflammation and tissue damage and impaired lung functioning. Ozone exposure is also associated with symptoms such as coughing, chest tightness, shortness of breath, and the worsening of asthma symptoms (BAAQMD 2011). The greatest risk for harmful health effects belongs to outdoor workers, athletes, children, and others who spend greater amounts of time outdoors during periods of high ozone or PM_{2.5} levels (e.g., “Spare the Air” days).

Carbon Monoxide (CO)

CO is a non-reactive pollutant that is toxic, invisible, and odorless. It is formed by the incomplete combustion of fuels. The largest sources of CO emissions are motor vehicles, wood stoves, and fireplaces. Unlike ozone, CO is directly emitted to the atmosphere. The highest CO concentrations occur during the nighttime and early mornings in late fall and winter. CO levels are strongly influenced by meteorological factors such as wind speed and atmospheric stability. The health threat from elevated ambient levels of CO is most serious for those who suffer from heart disease, like angina, clogged arteries, or congestive heart failure. For a person with heart disease, a single exposure to CO at relatively low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. High levels of CO can affect even healthy people. People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. At extremely high levels, CO is poisonous and can cause death.

Nitrogen Dioxide (NO₂)

Nitrogen dioxide is an essential ingredient in the formation of ground-level ozone pollution. NO₂ is one of the nitrogen oxides emitted from high-temperature combustion processes, such as those occurring in trucks, cars, and power plants. Home heaters and gas stoves also produce NO₂ in indoor settings. Besides causing adverse health effects, NO₂ is responsible for the visibility reducing reddish-brown tinge seen in smoggy air in California. NO₂ is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract. Studies suggest that NO₂ exposure can increase the risk of acute and chronic respiratory disease (BAAQMD 2011).

Sulfur Dioxide (SO₂)

Sulfur dioxide is a colorless gas with a strong odor. It can damage materials through acid deposition. It is produced by the combustion of sulfur-containing fuels, such as oil and coal. Refineries, chemical plants, and pulp mills are the primary industrial sources of sulfur dioxide emissions. Sulfur dioxide concentrations in the Bay Area are well below the ambient standards. Adverse health effects associated with exposure to high levels of sulfur dioxide include irritation of lung tissue, as well as increased risk of acute and chronic respiratory illness.

Suspended and Inhalable Particulate Matter

Particulate matter is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and

chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust. Particles 10 microns or less in diameter are defined as "respirable particulate matter" or "PM₁₀." Fine particles are 2.5 microns or less in diameter (PM_{2.5}) and, while also respirable, can contribute significantly to regional haze and reduction of visibility. Inhalable particulates come from smoke, dust, aerosols, and metallic oxides. Although particulates are found naturally in the air, most particulate matter found in the study area is emitted either directly or indirectly by motor vehicles, industry, construction, agricultural activities, and wind erosion of disturbed areas. Most PM_{2.5} is comprised of combustion products such as smoke. Extended exposure to PM can increase the risk of chronic respiratory disease (BAAQMD 2011). PM exposure is also associated with increased risk of premature deaths, especially in the elderly and people with pre-existing cardiopulmonary disease. In children, studies have shown associations between PM exposure and reduced lung function and increased respiratory symptoms and illnesses.

Toxic Air Contaminants

Toxic air contaminants (TACs) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer or serious illness) and include, but are not limited to, the criteria air pollutants listed above. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level. The identification, regulation and monitoring of TACs is relatively new compared to that for criteria air pollutants that have established ambient air quality standards. TACs are regulated or evaluated on the basis of risk to human health rather than comparison to an ambient air quality standard or emission-based threshold.

Diesel exhaust is the predominant TAC in urban air with the potential to cause cancer. It is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average). According to the ARB, diesel exhaust is a complex mixture of gases, vapors and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the ARB, and are listed as carcinogens either under the State's Proposition 65 or under the federal Hazardous Air Pollutants program.

TACs are measured for their increased cancer risk and non-cancer risk on sensitive receptors. Sensitive receptors are locations where an identifiable subset of the general population (children, asthmatics, the elderly, and the chronically ill) that is at greater risk than the general population to the effects of air pollutants are likely to be exposed. These locations include residences, schools, playgrounds, childcare centers, retirement homes, hospitals, and medical clinics.

Existing Air Quality Conditions

Table 3.2-1 (Ambient Air Quality Standards and Attainment Status), summarizes the ambient air quality standards and the attainment status of the San Francisco Bay Area Basin. The San Francisco Bay Area Air Basin is currently designated as non-attainment for the state standards for 8-hour and 1-hour ozone, 24-hour and annual PM₁₀, and annual PM_{2.5}, as well as for the national standards for 8-hour ozone and 24-hour PM_{2.5}.

Table 3.2-1 Ambient Air Quality Standards and Attainment Status

Pollutant	Averaging Time	California Standards	California Attainment Status	National Standards	National Attainment Status
Ozone	8-hour	0.070 ppm (137 µg/m ³)	Nonattainment	0.075 ppm (147 µg/m ³)	Nonattainment
	1-hour	0.09 ppm (180 µg/m ³)	Nonattainment	None	—
Carbon Monoxide	1-hour	20 ppm (23 mg/m ³)	Attainment	35 ppm (40 mg/m ³)	Attainment
	8-hour	9.0 ppm (10 mg/m ³)	Attainment	9 ppm (10 mg/m ³)	Attainment
Nitrogen Dioxide	1-hour	0.18 ppm (339 µg/m ³)	Attainment	0.100 ppm (188 µg/m ³)	Unclassified
	Annual	0.030 ppm (57 µg/m ³)	—	0.053 ppm (100 µg/m ³)	Attainment
Sulfur Dioxide	1-hour	0.25 ppm (655 µg/m ³)	Attainment	0.075 ppm (196 µg/m ³)	Attainment
	24-hour	0.04 ppm (105 µg/m ³)	Attainment	0.14 ppm (365 µg/m ³)	Attainment
	Annual	None	—	0.03 ppm (80 µg/m ³)	—
Respirable Particulate Matter (PM ₁₀)	24-hour	50 µg/m ³	Nonattainment	150 µg/m ³	Unclassified
	Annual	20 µg/m ³	Nonattainment	None	—
Fine Particulate Matter (PM _{2.5})	24-hour	None	—	35 µg/m ³	Nonattainment
	Annual	12 µg/m ³	Nonattainment	15 µg/m ³	Attainment

Source: BAAQMD 2019

Notes: ppm = parts per million
 mg/m³ = milligrams per cubic meter
 µg/m³ = micrograms per cubic meter

3.2.2 Regulatory Framework

The federal Clean Air Act of 1977 governs air quality in the U.S. In addition to being subject to federal requirements, air quality in California also is governed by more stringent regulations under the California Clean Air Act. At the federal level, the U.S. EPA administers the Clean Air Act. The California Clean Air Act is administered by the California Air Resources Board ARB and by the Air Quality Management Districts at the regional and local levels. The Bay Area Air Quality Management District (BAAQMD) regulates air quality at the regional level, which includes Sonoma County.

Federal

Federal Clean Air Act

The federal Clean Air Act of 1977 governs air quality in the United States. At the federal level, the U.S. EPA is responsible for enforcing the federal Clean Air Act which establishes the National Ambient Air Quality Standards. The U.S. EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of

locomotives. The U.S. EPA has jurisdiction over emission sources and establishes various emission standards, including those for vehicles sold in states other than California.

State and Regional

California Clean Air Act

In addition to being subject to federal requirements, air quality in California also is governed by more stringent regulations under the California Clean Air Act. The California Clean Air Act is administered by the ARB and by the BAAQMD at the regional level (described below).

In California, the ARB, which is part of the California Environmental Protection Agency, is responsible for meeting the State requirements of the federal Clean Air Act, administering the California Clean Air Act, and establishing the California Ambient Air Quality Standards. The California Clean Air Act, as amended in 1992, requires all air districts in the State to endeavor to achieve and maintain the California Ambient Air Quality Standards. The ARB regulates mobile air pollution sources, such as motor vehicles. It is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. The ARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level.

Bay Area Air Quality Management District

The BAAQMD is the regional agency responsible for air quality regulation within the San Francisco Bay Area Air Basin, regulating air quality through planning and review activities. The BAAQMD has permit authority over most types of stationary emission sources and can require stationary sources to obtain permits, impose emission limits, set fuel or material specifications, or establish operational limits to reduce air emissions. The BAAQMD's responsibilities include operating an air quality monitoring network as well as awarding grants to reduce motor vehicle emissions, conducting public education campaigns, and many other activities.

To protect public health, BAAQMD has adopted plans to achieve ambient air quality standards. BAAQMD must continuously monitor its progress in implementing attainment plans and must periodically report to ARB and the U.S. EPA. It must also periodically revise its attainment plans to reflect new conditions and requirements.

CEQA Air Quality Guidelines

The BAAQMD publishes the CEQA Air Quality Guidelines to assist lead agencies in evaluating air quality impacts of projects and plans undergoing CEQA review in the Bay Area. The original Air Quality Guidelines were published in 1999. The CEQA Air Quality Guidelines were updated in June 2010 to include new recommended thresholds of significance adopted by the BAAQMD Governing Board. The BAAQMD's Air Quality Guidelines were further updated in May 2017 to address the California Supreme Court's 2015 opinion in *California Building Industry Association vs. Bay Area Air Quality Management District*, 62 Cal.4th 369. The BAAQMD's recommended thresholds of significance are provided in Table 3.2-2 (BAAQMD Recommended Thresholds of Significance).

Table 3.2-2 BAAQMD Recommended Thresholds of Significance

Pollutant	Construction-Related	Operational Related	
ROG	54 lbs/day ¹	54 lbs/day ¹	10 tpy ²
NO _x	54 lbs/day ¹	54 lbs/day ¹	10 tpy ²
PM ₁₀ (exhaust)	82 lbs/day ¹	82 lbs/day ¹	15 tons/year
PM _{2.5} (exhaust)	54 lbs/day ¹	54 lbs/day ¹	10 tons/year
PM ₁₀ /PM _{2.5} (fugitive dust)	Best Management Practices	None	
Local CO	None	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	
Risk and Hazards for New Sources and Receptors (individual project)	Same as Operational Thresholds ²	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient PM _{2.5} increase: > 0.3 µg/m ³ annual average Zone of Influence: 1,000-foot radius from property line of source or receptor	
Risk and Hazards for New Sources and Receptors (cumulative)	Same as Operational Thresholds ³	Compliance with Qualified Community Risk Reduction Plan OR Cancer: > 100 in a million (from all local sources) Non-cancer: > 10.0 Hazard Index (from all local sources) (Chronic) PM _{2.5} : > 0.8 µg/m ³ annual average (from all local sources) Zone of Influence: 1,000-foot radius from property line of source or receptor	
Odors	None	5 confirmed complaints per year averaged over three years	

Source: BAAQMD 2017a

Note 1. Average daily emissions threshold.

2. The BAAQMD recommends that for construction projects that are less than one-year duration, Lead Agencies should annualize impacts over the scope of actual days that peak impacts are to occur, rather than the full year.

The Best Management Practices (BMPs) used as the BAAQMD's performance-measure threshold of significance for construction-generated dust are included as Project Design Feature 1 (Air Quality Control Measures during Construction) in Chapter 2 (Project Description).

Clean Air Plan

In 2017, BAAQMD adopted the most recent update of the Bay Area Clean Air Plan (2017 Clean Air Plan) (BAAQMD 2017a). The Clean Air Plan is meant to demonstrate progress toward meeting the more stringent 1-hour ozone California Ambient Air Quality Standard. This Clean Air Plan addresses the California Clean Air Act and updates the most recent ozone plan, the 2010 Clean Air Plan. The 2017 Clean Air Plan is a multi-pollutant air quality plan that addresses four categories of air pollutants:

- Ground-level ozone and the key ozone precursor pollutants (reactive organic gases and NO_x), as required by State law;
- Particulate matter, primarily PM_{2.5}, as well as the precursors to secondary PM_{2.5};
- Toxic air contaminants; and
- Greenhouse gases.

The Clean Air Plan includes 85 Control Measures in nine categories based upon the economic sector framework used by the Air Resources Board for the AB 32 Scoping Plan Update, including: stationary (industrial) sources; transportation; energy; buildings; agriculture; natural and working lands; waste management; water; and super-GHG pollutants. These measures are primarily policy-level and would be implemented by BAAQMD and the Metropolitan Transportation Commission (examples: establishing new emission limits on stationary sources, requiring new control measures on industrial facilities, implementing public education programs, promoting trip reduction programs, etc.).

City of Sonoma General Plan

The *City of Sonoma 2020 General Plan* was consulted as a source of local information, conditions, and context, as well to provide rationale for certain impact determinations. The following policy relates to air quality and is applicable to this Project.

Policy 2.9 Require development to avoid potential impacts to wildlife habitat, air quality, and other significant biological resources, or to adequately mitigate such impacts if avoidance is not feasible.

3.2.3 Evaluation Criteria and Significance Thresholds

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized in Table 3.2-3 (Evaluation Criteria and Significance Thresholds) are used to determine if the Project would have a significant effect related to air quality.

Table 3.2-3 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
AQ-1: Would the project conflict with or obstruct implementation of the applicable air quality plan?	Conflict with Bay Area 2017 Clean Air Plan	CEQA Guidelines Appendix G, Checklist Item III (a) 2017 Bay Area Clean Air Plan
AQ-2: Would the project result in a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	Exceed BAAQMD CEQA thresholds of significance for criteria air pollutants, precursors, and carbon monoxide Non-compliance with BAAQMD recommended dust abatement actions	CEQA Guidelines Appendix G, Checklist Item III (b) BAAQMD 2017 CEQA Guidelines
AQ-3: Would the project expose sensitive receptors to substantial pollutant concentrations?	Exceed BAAQMD CEQA individual project thresholds of significance for risks and hazards for new sources and receptors	CEQA Guidelines Appendix G, Checklist Item III 9c) BAAQMD 2017 CEQA Guidelines
AQ-4: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Creation of a new odor source near existing sensitive receptors	CEQA Guidelines Appendix G, Checklist Item III (d)

3.2.4 Approach to Analysis

Use of BAAQMD Thresholds

The air quality analysis in this EIR utilizes the thresholds of significance, screening criteria and levels, and impact assessment methodologies presented in the BAAQMD CEQA Air Quality Guidelines (BAAQMD 2017a).

The Project's construction air quality emissions were estimated with the California Emissions Estimator Model (CalEEMod) version 2016.3.2, and then compared to the criteria air pollutant thresholds established in the BAAQMD CEQA Air Quality Guidelines. CalEEMod output is provided in Appendix C. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant emissions associated with construction and operation from a variety of land uses.

The Project was modelled using two different land uses: City Park and other Non-asphalt Surfaces. Because the Project would renovate existing athletic fields and would not increase the capacity of the SVHS, City Park was determined to be the appropriate land use. Non-asphalt Surfaces was used to capture the basketball court. The model adjusts the construction activity based on the land use type and amounts input into the model. Project-specific model inputs for construction include:

- Construction is scheduled to begin in 2020 and last 14 approximately months
- Construction of renovated fields totals 16.8 acres (City Park) and includes 1.1 acres for the basketball court.
- Project construction includes demolition and removal of approximately 39,000 square feet of concrete and asphalt pavement. The tonnage of materials to be removed was estimated using CalRecycle's estimated demolition materials amounts (CalRecycle 2019). A total of 578 tons of demolition materials (building and pavement) was entered into CalEEMod.
- The Project would include site preparation and grading of the entire 16.8-acre site. All cut and fill would be balanced on-site.
- Approximately 6,400 tons of drainage gravel would be imported and was entered into the CalEEMod analysis. This equates to about 300 loads, which would result in 600 haul trips total.

The BAAQMD developed screening criteria and screening levels to provide lead agencies and project applicants with a conservative indication of whether a project could result in potentially significant air quality impacts. As provided by the BAAQMD's CEQA Air Quality Guidelines (BAAQMD 2017b), if the Project meets the screening criteria for an impact category, and is consistent with the methodology used to develop the screening criteria, then its air quality impact for that category may be considered less than significant. The screening criteria for both City Park and High Schools is referenced in analyzing the Project's operational impacts from criteria air pollutants.

The Air Quality analysis also discusses criteria pollutants and consistency with the Bay Area 2017 Clean Air Plan. Additionally, a qualitative construction community risk assessment was conducted in order to address the potential health risks the high school students and surrounding residents could experience as a result of the Project.

3.2.5 Impacts and Mitigation Measures

Table 3.2-4 (Summary of Impacts – Air Quality) provides a summary of potential impacts from the Project.

Table 3.2-4 Summary of Impacts – Air Quality

Impact	Project Significance
AQ-1: Would the project conflict with or obstruct implementation of the applicable air quality plan?	LS
AQ-2: Would the project result in a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	LS
AQ-3: Would the project expose sensitive receptors to substantial pollutant concentrations?	LSM
AQ-4: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	LS
AQ-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to air quality?	LS

Notes: NI = No Impact

LS = Less than Significant

LSM = Less than Significant with Mitigation

Impact AQ-1: Would the project conflict with or obstruct implementation of the applicable air quality plan?

The 2017 Clean Air Plan contains 85 individual control measures in nine economic sectors: stationary (industrial) sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and GHG pollutants. Many of these control measures require action on the part of the BAAQMD, the California Air Resources Board (ARB), or local communities, and are not directly related to the actions undertaken for an individual recreation project. The Project would not prevent the BAAQMD from implementing these actions and none apply directly to the Project. In addition, the Project would not result in a growth in population or jobs in the Project area; therefore, the Project would not exceed the growth assumptions contained in the 2017 Clean Area Plan and the impact would be **less than significant**.

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact AQ-2: Would the project result in a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Construction

Construction activities are anticipated to take approximately 12 to 14 months to complete, which would include demolition, site grading, construction of athletic facilities, drainage improvements, ancillary buildings, and installation of sports lights.

For construction-related PM_{2.5} and PM₁₀ dust, the BAAQMD recommends incorporation of best management practices (BMPs) to reduce localized dust impacts to less than significant. As described in Chapter 2.0 (Project Description), the Project would incorporate the BAAQMD's Basic Construction Measures for fugitive dust (2.8.1 Air Quality Control Measures during Construction). Therefore,

the Project would adhere to the basic construction measures recommended by BAAQMD, and the construction-phase impacts from fugitive PM_{2.5} and PM₁₀ dust would be **less than significant**.

Construction equipment anticipated to be used includes, but is not limited to, backhoes, excavators, front-end loaders, graders, rollers, scrapers, forklifts, dump trucks, and concrete mixer trucks.

The types of air pollutants generated by construction activities are typically nitrogen oxides and particulate matter, such as dust and exhaust. Construction activities could temporarily increase levels of PM_{2.5} and PM₁₀ downwind of construction activity. These are temporary emissions that vary considerably from day-to-day and by the type of equipment and weather. In addition, CO and reactive organic gases are emitted during operation of gas and diesel-powered construction equipment.

Construction-related air pollutant emissions were estimated for the Project using the California Emissions Estimator Model (CalEEMod) version 16.3.2. The results were then compared to the BAAQMD thresholds of significance for criteria pollutants. As shown in Table 3.2-5 (Construction Air Emissions Associated with Project), the estimated construction-related emissions are less than the thresholds of significance adopted by the BAAQMD. Therefore, the impact from construction related emissions would be **less than significant**.

Table 3.2-5 Construction Air Emissions Associated with Project

	ROG	NOx	PM ₁₀	PM _{2.5}
Project Construction Emissions	2.30 lbs/day	25.26 lbs/day	5.15 lbs/day	3.12 lbs/day
BAAQMD Thresholds	54 lbs/day	54 lbs/day	82 lbs/day	54 lbs/day

Source: BAAQMD 2017a; CalEEMod 2016.3.2

Operation

Following construction, the Project would not include any stationary sources of air emissions. Vehicle trips associated with operation and maintenance of the athletic fields would continue to occur as they do under existing conditions. The only change to vehicle trips would be a re-distribution of trips that would occur with relocation of certain athletic and special events. While a small change, either increase or decrease, could occur in vehicle emissions from the re-distribution of trips within the transportation network, the impact is considered less than significant.

Finally, the BAAQMD operational-related air pollutant screening level size for a high school is 2,390 students. Although the Project does not include the construction of a new high school, this information is provided as a comparison to the current high school population in that the population that is served by the existing school and associated facilities is smaller than the screening criteria. The screening level size for a city park is 2,613 acres. The 2018/2019 enrollment for SVHS, was 1,274 students. The athletic field renovation area is 16.8 acres. Both are well below the BAAQMD screening criteria for requiring a quantitative analysis.

Therefore, the operational impact to criteria pollutants would be **less than significant**.

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact AQ-3: **Would the project expose sensitive receptors to substantial pollutant concentrations?**

Construction

Sensitive receptors are defined by the BAAQMD as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. The SVHS is, itself, a location of sensitive receptors when school is in session. In addition, existing residences are located adjacent to the construction boundary.

Construction equipment and heavy-duty truck traffic generate diesel particulate matter (DPM) exhaust, which is a known toxic air contaminant. DPM is a human carcinogen and chronic (long-term) inhalation exposure to DPM poses a chronic health risk. As described in Chapter 2.0 (Project Description), the Project would incorporate the BAAQMD's Basic Construction Measures (see Project Design Feature 1 Air Quality Control Measures during Construction). These measures also reduce DPM emissions.

Due to construction occurring while school is in session, it is assumed that students would be exposed to pollutant concentrations that could potentially cause a significant impact in terms of health risks. Additionally, given the close proximity of residential sensitive receptors to each project site, the construction activities are considered to result in potentially **significant** impacts in terms of excess cancer risk to any infants present or increased annual PM_{2.5} concentrations caused by construction equipment and traffic exhaust and fugitive dust. There are measures available that would reduce these emissions and result in less-than-significant impacts (listed below).

Operation

ARB recommended setback distances (ARB 2005) for sensitive receptors such as students includes:

- 500 feet or more from a freeway;
- 500 feet or more from an urban road travelled by more than 100,000 vehicles/day;
- 1,000 feet or more from a known distribution center, rail yard, or chrome plater;
- 500 feet or more of a dry cleaning operation;
- 50 feet or more from a typical gas dispensing facility, or
- Immediately downwind a port or refinery.

The Project would renovate the existing athletic facilities at SVHS. Athletic activities would increase, but at the same location as current activities using the fields. The renovation area does not meet any of the above parameters. The

location of the Project site meets the CARB recommended setback distances. The construction boundary is located approximately 900 feet east of Highway 12, the nearest freeway. The site is not located within 500 feet of an urban road travelled by more than 100,000 vehicles/day. There are no known distribution centers, rail yards, or chrome platers located within 1,000 feet of the site, no dry cleaning operations within 500 feet of the site, and no gas dispensing facilities within 50 feet of the site. Therefore, the Project would not be located in an area where incompatible land uses may expose students or other sensitive receptors to substantial toxic air contaminants. In addition, the Project does not include any new stationary sources. The operational exposure impact would be **less than significant**.

Significance *Significant*

Mitigation Mitigation Measure AQ-1: Use Low DPM or Zero Emissions Equipment

All mobile diesel-powered off-road equipment larger than 25 horsepower and operating on the site for more than two days shall meet U.S. EPA particulate matter emissions standards for Tier 4 or use engines that include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices (VDECs). Alternatively (or in combination), the use of alternatively-fueled or electric equipment (i.e., non-diesel) would be consistent with this requirement.

Avoid diesel generator use by supplying line power to the construction site and limiting the use of diesel generators to no more than 50 total hours.

Avoid staging of construction equipment near portions of the Project site that are adjacent to residences.

After Mitigation *Less than significant with mitigation*

In addition to the reduction of exhaust emissions through the implementation of the BAAQMD's Basic Construction Measures (Project Design Feature 1), implementation of Mitigation Measure AQ-1 would further reduce on-site diesel exhaust emissions by at least 85 percent when compared against a statewide fleet mix assumed by the CalEEMod model. These measures would represent the best available control measures to reduce localized construction impacts that could adversely affect sensitive receptors. The project would have a **less-than-significant** impact with respect to community risk caused by construction activities with implementation of these mitigation measures.

Impact AQ-4: Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Construction

Minor odors from the use of equipment during construction activities would be intermittent and temporary and would dissipate rapidly from the source with an increase in distance. The impact over the course of the construction period would be **less than significant**.

Operation

Facilities that typically are considered to potentially create objectionable odors include such uses as wastewater treatment plants, landfills, asphalt plants, coffee roasters, and food processing. The Project does not include such a facility, and would not emit objectionable odors. Therefore, there would be **no impact** from odors.

Significance *Less than Significant*

Mitigation No mitigation is required.

3.2.6 Cumulative Impacts**Impact AQ-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to air quality?**

The geographic scope for assessing cumulative relative to air quality is the San Francisco Air Basin.

By its nature, air pollution is largely a cumulative impact, in that individual projects are rarely sufficient in size to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions may contribute to cumulative adverse air quality impacts. The BAAQMD's screening criteria and thresholds, applied to the construction and operation of this Project, take into account the Air Basin's attainment status, continued attainment of the standards, and attainment of the daily PM₁₀ California Ambient Air Quality Standards. Therefore, the thresholds, when used as regional thresholds of significance for criteria and precursor air pollutants, are the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified regional significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

Finally, consistency with an attainment plan is a cumulative analysis, as it analyzes a project in regards to an adopted plan that is based on growth projections for the region. Therefore, the project-level analysis above also would constitute the cumulative impact analysis, and no additional cumulative impacts analysis is required. Therefore, the Project's contribution to the cumulative impact related to air quality would not be cumulatively considerable.

Significance *Less than Cumulatively Considerable (Less than Significant)*

Mitigation No mitigation is required.

3.3 Biological Resources

This section provides a description of the existing biological resources in the Project area and evaluates potential effects to those resources from implementation of the proposed Project. In addition, the following subject is related to biological resources, but is evaluated in other sections of this EIR:

- Potential impacts to water quality in Nathanson Creek are addressed in Section 3.8 (Hydrology and Water Quality).

A biological resources study was conducted for the Project and is used as a basis for summarizing the existing setting and evaluating potential biological-related impacts. The study area included the entire SVHS Campus. The complete *Biological Resources Report* (GHD 2019) can be reviewed in Appendix D.

3.3.1 Existing Setting

The following describes existing conditions of the proposed renovation area with emphasis on biological resources.

Regional Setting

The Project site is located in the City of Sonoma within Sonoma County, California. Biological resources within the City of Sonoma include sensitive aquatic and terrestrial plants, animals, and habitat. These resources can be roughly divided between those found on the Santa Rosa Plain and those located in the uplands, with connections formed by creeks.

The City of Sonoma is bisected by Nathanson Creek, which originates in the Mission Highlands to the north and flows south to Schell Creek, which then connects to San Pablo Bay via a couple of sloughs and Sonoma Creek. Sonoma Creek is located west of the City of Sonoma, and Arroyo Seco Creek is located to the east. Together, these urban creeks provide instream and riparian habitat that support a distinct community of plants and animals and provide migration corridors that allow other wildlife to travel between suitable habitats that are otherwise separated by development.

Habitat within the City is predominantly developed with a mix of residential, commercial, industrial, recreational, and agricultural uses. Developed areas have encroached on native vegetation, but numerous natural areas still remain within the City, including grasslands, woodlands, riparian areas, and vernal pools.

Local Setting

The 49-acre study area, encompassing the entire SVHS Campus, is situated within the developed urban landscape of the City of Sonoma (see Appendix D Biological Resources Report). Nathanson Creek bisects the SVHS Campus. On the west side of Nathanson Creek are the classroom and administration buildings, common areas, and parking. The east side includes the athletic fields, basketball courts, a fallow field south of the athletic fields, pedestrian trails, and the school agricultural farm. The 16.8-acre renovation area, located in the northeast corner of the campus, is bordered by a developed urban neighborhood, that includes residential and Prestwood Elementary, to the north and east. Nathanson creek, along the west side of the renovation area, provides stream and riparian habitat for a variety of wildlife resources. To the south of the renovation area is the fallow field and agricultural farm.

Biological Communities

Biological communities are fully described in the Project's Biological Resource Report (GHD 2019), found in Appendix D, and summarized below.

Developed/Urban

Urban habitat is distinguished by the presence of both native and exotic species maintained in a relatively static composition within a downtown, residential, or suburbia setting. Species richness in these areas depends greatly upon community design (i.e., open space considerations) and proximity to the natural environment.

Urban habitat can generally be classified into five different vegetation types: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. Tree groves refer to conditions typically found in city parks, green belts, and cemeteries. These areas vary in tree height, spacing, crown shape, and understory conditions; however, they have a continuous canopy. Street strip vegetation, located roadside, varies with species type, but typically includes a ground cover of grass. Shade trees/lawn refers to characteristic residential landscape, which is reminiscent of natural savannas. Lawns are composed of a variety of grasses, maintained at a uniform height with continuous ground cover through irrigation and fertilization. Shrub cover refers to areas commonly landscaped and maintained with hedges, as typically found in commercial districts. All five types of urban habitat are usually found in combination creating considerable edge effect.

The Project site consists of urban shade trees and urban lawn. Urban lawn comprises the majority of the renovation area with scattered patches and a border of shade trees surrounding the athletic fields. Many of the trees are native, and some of them contain squirrel dreys and nest boxes. These trees could provide potential habitat for wildlife, or nest sites for raptors or other migratory birds.

Quercus lobata Woodland Alliance (Valley Oak Woodland)

The *Quercus lobata* Woodland Alliance is characterized by at least a third of the tree canopy being composed of valley oaks. The valley oaks often grow in association with boxelder, Oregon ash, Arroyo willow, Hinds black walnut, interior live oak, and Fremont cottonwood trees. This community can range from a savanna-like structure, with wider tree spacing and very little shrub understory; to the classic, forest-like structure, with partially closed canopies and shade tolerant shrubs or vines. A significant number of wildlife species rely on these woodlands for cover and food (Ritter 2013). The community is found along watercourses or riparian areas on seasonally saturated soils that may be intermittently flooded in lowlands, valley bottoms, lower slopes or summit valleys. Valley Oak Woodlands are ranked as S3-“State Vulnerable” vegetation communities.

The Project site encompasses the riparian corridor of Nathanson Creek and Nathanson Creek Preserve. This corridor is made up of predominantly valley oaks with a smaller component of Arroyo willow, which classifies it as a Valley Oak Woodland. The Nathanson Creek Preserve has been the focus of flood attenuation and habitat restoration projects in the past. Despite the urban surroundings, site survey observations of birds and other wildlife suggests this woodland provides habitat for at least wildlife species tolerant of proximity to human development.

Annual Grassland

Annual grasslands are dominated by annual graminoid species. This ephemeral nature makes them quite dynamic habitats. Species composition and habitat structure change throughout the seasons

due to different stages of plant growth and phenology, as well as external factors, such as precipitation and animal use. The plant species constituents vary depending on the bioregion in which a grassland is located and the amount of diversity within a habitat depends on its management and health. Annual grasslands are so common that they are found in association with most other habitats. They are important to many wildlife species primarily for forage, but can also provide for cover and reproduction.

The renovation area encompasses an area south of the existing athletic fields that is not maintained as turf. This has allowed a semi-natural composition of plants to establish. During the August 24th visit, much of this area was tilled under, with the remaining mowed, likely for weed abatement. On May 6, 2019, a new parking lot and bioretention basin had been built just south of the renovation area, in a portion of this field.

Ruderal

Ruderal habitat refers to any area with heavy and ongoing human disturbance. This habitat generally has a reduced value to wildlife when compared to other habitats, because of the ongoing human disturbance.

Critical Habitat

Critical habitat is designated by the U.S. Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act (ESA). Critical habitat refers to specific geographic areas that contains features essential for conservation of a threatened or endangered species and that may require special management and protection. This designation may include an area that is not currently occupied by the species but that will be needed for recovery. Nathanson Creek is identified as critical habitat for Central California Coast (CCC) Steelhead.

Essential Fish Habitat

Essential fish habitat (EFH) are those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (MSA § 3(10)). For the purpose of interpreting the definition of essential fish habitat: "Waters" include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish where appropriate; "substrate" includes sediment, hard bottom, structures underlying the waters, and associated biological communities; "necessary" means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and "spawning, breeding, feeding, or growth to maturity" covers a species' full life cycle. EFH is described by the Councils in amendments to Fishery Management Plans, and is approved by the Secretary of Commerce acting through NOAA Fisheries (50 CFR 600.10).

Tributaries in the San Pablo Bay watershed, including Nathanson Creek, are designated as Essential Fish Habitat within the Pacific Coast Salmon Fisheries Management Plan. Species included in this Plan are Chinook Salmon (*Oncorhynchus tshawytscha*) and, Coho Salmon (*Oncorhynchus kisutch*) and Puget Sound Pink Salmon (*Oncorhynchus gorbuscha*). Chinook Salmon has documented presence in Nathanson Creek.

Sensitive Natural Communities

CDFW provides oversight of habitats (i.e. plant communities) listed as sensitive in the California Natural Diversity Database (CNDDDB), based on global and state rarity rankings according to the list

of statewide natural communities, *Hierarchical List of Natural Communities*. The natural communities are broken down to alliance level for vegetation types affiliated with ecological sections in California. The list and alliances coincide with *A Manual of California Vegetation* (Sawyer et al. 2009). According to the CDFW vegetation classification of natural community hierarchy list, habitats are listed as “high priority for inventory” based on global or state rarity rankings. CDFW considers alliances and associations with a S1 to S3 rank to be of special concern as well as highly imperiled.

Wetlands and Jurisdictional Waters

The entire 16.8-acre renovation area was surveyed for wetlands to determine the acreage and location of aquatic resources potentially subject to the following regulations:

- Section 404 of the Clean Water Act, and Section 10 of the Rivers and Harbors Act as administered by the United States Army Corps of Engineers (USACE); and
- The Porter Cologne Water Quality Control Act and Section 401 of the Clean Water Act as administered by the Regional Water Quality Control Board (RWQCB, GHD 2019).

Wildlife Corridors

Wildlife corridors refer to established migration routes commonly used by resident and migratory species for passage from one geographic location to another. Corridors are present in a variety of habitats and link undisturbed areas that would otherwise be fragmented. Maintaining the continuity of established wildlife corridors is important to: a) sustain species with specific foraging requirements, b) preserve a species' distribution potential, and c) retain diversity among many wildlife populations. Therefore, resource agencies consider wildlife corridors to be a sensitive resource.

Special-status Species

Sensitive biological resources evaluated as part of this analysis include special-status species, which are plants and animals in the following categories:

- Listed or proposed for listing as threatened or endangered under FESA or candidates for possible future listing;
- Listed or candidates for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA);
- Listed as Fully Protected under the California Fish and Game Code;
- Taxa identified by the CDFW as species of special concern or rare;
- Plants assigned a California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) 1A, 1B, 2A, or 2B. The ranking system is summarized as follows:
 - CRPR 1A Plants presumed extirpated in California and either rare or extinct elsewhere;
 - CRPR 1B Plants that are rare, threatened, or endangered in California and elsewhere;
 - CRPR 2A Plants presumed extirpated in California, but common elsewhere;
 - CRPR 2B Plants that are rare, threatened, or endangered in California but more common elsewhere;
 - CRPR 3 Plants about which more information is needed (a review list); and
 - CRPR 4 Plants of limited distribution (a watch list).

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

3.3.2 Regulatory Framework

Federal

Federal Endangered Species Act

The FESA of 1973 (16 USC 1531 et seq.) establishes a national policy that all federal departments and agencies provide for the conservation of threatened and endangered species and their ecosystems. The Secretary of the Interior and the Secretary of Commerce are designated in the FESA as responsible for: (1) maintaining a list of species likely to become endangered within the foreseeable future throughout all or a significant portion of its range (threatened) and that are currently in danger of extinction throughout all or a significant portion of its range (endangered); (2) carrying out programs for the conservation of these species; and (3) rendering opinions regarding the impact of proposed federal actions on listed species. The FESA also outlines what constitutes unlawful taking, importation, sale, and possession of listed species and specifies civil and criminal penalties for unlawful activities.

Pursuant to the requirements of the FESA, an agency reviewing a proposed Project within its jurisdiction must determine whether any federally listed or proposed species may be present in the Project vicinity, and whether the proposed Project would result in a “take” of such species. The FESA prohibits “take” of a single threatened and endangered species except under certain circumstances and only with authorization from the USFWS or the National Oceanic and Atmospheric Administration (NOAA) Fisheries through a permit under Section 7 (for Federal entities) or 10(a) (for non-Federal entities) of the Act. “Take” under the FESA includes activities such as “harass, harm, pursue, hunt shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” USFWS regulations define harm to include “significant habitat modification or degradation.” On June 29, 1995, a U.S. Supreme Court ruling further defined harm to include habitat modification “...where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.”

In addition, the agency is required to determine whether the Project is likely to jeopardize the continued existence of any species proposed to be listed under the FESA, or result in the destruction or adverse modification of critical habitat for such species (16 USC 1536[3][4]). If it is determined that a Project may result in the “take” of a federally-listed species, a permit would be required under Section 7 or Section 10 of the FESA.

Clean Water Act

The Clean Water Act (CWA 1977, as amended) establishes the basic structure for regulating discharges of pollutants into waters of the U.S. It gives the U.S. Environmental Protection Agency (EPA) the authority to implement pollution control programs, including setting wastewater standards for industry and water quality standards for contaminants in surface waters. The CWA makes it unlawful for any person to discharge any pollutant from a point source into navigable waters, without a permit under its provisions.

Discharge of fill material into “waters of the U.S.,” including wetlands, is regulated by the USACE under Section 404 of the CWA (33 USC 1251-1376). USACE regulations implementing Section 404 define “waters of the U.S.” to include intrastate waters (such as, lakes, rivers, streams, wetlands, and natural ponds) that the use, degradation, or destruction of could affect interstate or foreign commerce. Wetlands are defined for regulatory purposes as “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 CFR 328.3; 40 CFR 230.3). The placement of structures in “navigable waters of the U.S.” is also regulated by the USACE under Section 10 of the Federal Rivers and Harbors Act (33 USC 401 et seq.). Projects are approved by USACE under standard (i.e., individual) or general (i.e., nationwide, programmatic, or regional) permits. The type of permit is determined by the USACE and based on project parameters.

The USACE and the EPA announced the release of the Clean Water Rule on May 27, 2015 (80 FR 124: 37054-37127). The Rule is intended to ensure waters protected under the CWA are more precisely defined, more predictable, easier to understand, and consistent with the latest science. The intent is to: 1) clearly define and protect tributaries that impact the quality of downstream waters; 2) provide certainty in how far safeguards extend to nearby waters; 3) protect unique regional waters; 4) focus on streams instead of ditches; 5) maintain the status of waters associated with infrastructure (i.e., sewer systems); and 6) reduce the need for case-specific analysis of all waters. The U.S. Court of Appeals for the Sixth Circuit stayed implementation of the Clean Water Rule pending further action of the court in October 2015. In response, the USACE and EPA resumed case-by-case analysis of waters of the U.S. determinations. Implementation of the Clean Water Rule is pending ongoing litigation.

The Fish and Wildlife Coordination Act requires consultation with the USFWS, NOAA Fisheries, and responsible state wildlife agency for any federally authorized action to control or modify surface waters. Therefore, any project proposed or permitted by the USACE under the CWA Section 404 must also be reviewed by the federal wildlife agencies and CDFW.

Section 401 of the CWA requires any applicant for a federal license or permit, which involves an activity that may result in a discharge of a pollutant into waters of the U.S., obtain a certification that the discharge will comply with applicable effluent limitations and water quality standards. CWA 401 certifications are issued by RWQCBs under the California Environmental Protection Agency.

Presidential Directives and Executive Orders

Executive Order 11990 (1977) furthers the protection of wetlands under the National Environmental Policy Act (NEPA) through avoidance of long and short term adverse impacts associated with the destruction or modification of wetlands where practicable. The order requires all federal agencies managing federal lands, sponsoring federal projects, or funding state or local projects to assess the effects of their actions on wetlands. The agencies are required to follow avoidance, mitigation, and preservation procedures. The Presidential Wetland Policy of 1993 and subsequent reaffirmation of the policy in 1995 supports effective protection and restoration of wetlands, while advocating for increased fairness of federal regulatory programs.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711) as amended, established federal responsibilities for the protection of nearly all species of birds, their eggs, and nests. A migratory bird

is defined as any species or family of birds that live, reproduce or migrate within or across international borders at some point during their annual life cycle. The MBTA prohibits the take, possession, buying, selling, purchasing, or bartering of any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Only exotic species such as Rock Pigeons (*Columba livia*), House Sparrows (*Passer domesticus*), and European Starlings (*Sturnus vulgaris*) are exempt from protection.

In 2001, President Clinton defined “take” in Executive Order 13186 to include both “intentional” and “unintentional.” However, in 2017, the Department of the Interior’s (DOI) Office of Solicitor argued via Opinion M-37050 that incidental take was not prohibited under the Migratory Bird Treaty Act. Opinion M-37050 is currently the subject of a lawsuit between eight U.S. states and the U.S. DOI.

State

California Environmental Quality Act

CEQA requires that biological resources be considered when assessing the environmental impacts resulting from proposed actions. Lead agencies are charged with evaluating available data and determining what specifically should be considered an “adverse effect.”

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act provides for statewide coordination of water quality regulations by establishing the California State Water Resources Control Board. The State Board is the statewide authority that oversees nine separate RWQCBs that collectively oversee water quality at regional and local levels. California RWQCBs issue CWA, Section 401 Water Quality Certifications for possible pollutant discharges into waters of the U.S. or state.

California Department of Fish and Wildlife

The CDFW enforces and permits actions regulated by the California Fish and Game Code, which governs the taking or possession of birds, mammals, fish, amphibians and reptiles, as well as natural resources such as wetlands and waters of the state. The code includes the CESA (Sections 2050-2115), Lake or Streambed Alteration Agreement regulations (Section 1600-1616), Native Plant Protection Act (Section 1900-1913), and Natural Community Conservation Planning (NCCP) Act (Section 2800 et seq.) as well as provisions for legal hunting and fishing, and tribal agreements for activities involving take of native wildlife.

California Endangered Species Act

The CESA includes provisions for the protection and management of species listed by the State of California as endangered, threatened, or designated as candidates for such listing (California Fish and Game Code Sections 2050 through 2085). The CESA generally parallels the main provisions of the FESA and is administered by the CDFW, who maintains a list of state threatened and endangered species as well as candidate and species of special concern. The CESA prohibits the “take” of any species listed as threatened or endangered unless authorized by the CDFW in the form of an Incidental Take Permit. Under California Fish and Game Code, “take” is defined as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.”

The species of special concern are broadly defined as species that are of concern to the CDFW, because of population declines and restricted distributions and/or they are associated with habitats

that are declining in California. Impacts to special-status plants and animals may be considered significant under CEQA.

Lake or Streambed Alteration Agreement

Streams, lakes, and riparian vegetation which serve as habitat for fish and other wildlife species are subject to jurisdiction by the CDFW under Sections 1600-1616 of the California Fish and Game Code. Any activity that will do one or more of the following: 1) substantially obstruct or divert the natural flow of a river, stream, or lake; 2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or 3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake; generally require a 1602 Lake and Streambed Alteration Agreement. The term “stream,” which includes creeks and rivers, is defined in the CCR as follows: “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14 CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. Riparian is defined as, “on, or pertaining to, the banks of a stream;” therefore, riparian vegetation is defined as, “vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself.” Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from the CDFW.

Native Plant Protection Act

The CDFW administers the Native Plant Protection Act (Sections 1900–1913 of the California Fish and Game Code). These sections allow the California Fish and Game Commission to designate endangered and rare plant species and to notify landowners of the presence of such species. Section 1907 of the California Fish and Game Code allows the Commission to regulate the “taking, possession, propagation, transportation, exportation, importation, or sale of any endangered or rare native plants.” Section 1908 further directs that “[n]o person shall import into this state, or take, possess, or sell within this state, except as incident to the possession or sale of the real property on which the plant is growing, any native plant, or any part or product thereof, that the Commission determines to be an endangered native plant or rare native plant.”

Natural Community Conservation Planning Act

The CDFW is the principal state agency responsible for implementing the (NCCP Act of 1991). The Act is designed to conserve natural communities at the ecosystem scale while accommodating compatible land use. The NCCP plans developed in accordance with the Act seek to ensure the long-term conservation of multiple species, while allowing for compatible and appropriate economic activity to proceed.

Birds of Prey

Section 3503 of the California Fish and Game Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Subsection 3503.5 specifically prohibits the take, possession, or destruction of any birds in the orders Falconiformes (hawks and eagles) or Strigiformes (owls) and their nests. These provisions, along with the MBTA, essentially serve to protect nesting native birds.

Fully Protected Species

The California Fish and Game Code also accords “fully protected” status to a number of specifically identified fish (Section 5515), reptiles and amphibians (Section 5050), birds (Section 3511), and mammals (Section 4700). As fully protected species, the CDFW cannot authorize any project or action that would result in “take” of these species even with an incidental take permit.

California Oak Woodland Conservation Act

The California Oak Woodland Conservation Act, 2001, established the Oak Woodland Conservation Program to be administered by the Wildlife Conservation Board (WCB). The WCB oversees budget used to assist local jurisdictions and landowners protect and enhance oak woodland resources. The Act further authorizes the WCB to purchase oak woodland conservation easements and fund oak restoration efforts.

Regional and Local

City of Sonoma Tree Ordinance

The City of Sonoma Tree Ordinance (Municipal Code Chapter 12.08) protects significant trees on public and private property. Significant trees are defined as having a single trunk size of 1.5 feet in diameter at breast height. Removal or alteration of significant trees first requires a permit and approval by the City. The ordinance also requires the establishment of a non-intrusion zone prior to development. The width of the non-intrusion zone is determined by the trunk diameter of the tree and ranges from 4 feet to a maximum of 32 feet for trees that are greater than 48 inches in diameter at breast height. Replacement trees are required at a minimum of a 1:1 ratio, on-site, and using 15-gallon box size for each six inches of tree diameter removed. Tree species or native versus non-native trees are not specified in the ordinance.

City of Sonoma General Plan

The *City of Sonoma 2020 General Plan* policies were consulted as a source of local information, conditions, and context, as well to provide rationale for certain impact determinations. The following *City of Sonoma 2020 General Plan* goals and policies relate to biological resources and are applicable to the Project:

Goal ER-2 Identify, preserve, and enhance important habitat areas and significant environment resources.

- Policy 2.2 Preserve habitat that supports threatened, rare, or endangered species identified by State or federal agencies.
- Policy 2.3 Protect and, when necessary, enhance riparian corridors.
- Policy 2.6 Preserve existing trees and plant new trees.
- Policy 2.9 Require development to avoid potential impacts to wildlife habitat, air quality, and other significant biological resources, or to adequately mitigate such impacts if not feasible.

3.3.3 Evaluation Criteria and Significance Thresholds

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized in Table 3.3-1 (Evaluation Criteria and Significance Thresholds) are used to determine if the Project would have a significant effect related to biological resources.

Table 3.3-1 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
BIO-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<p>Direct loss or harm of a sensitive or special-status species</p> <p>Loss or alteration of habitat that could result in the 'take' of a sensitive or special-status species</p> <p>Indirect disturbance (e.g., construction noise) that could disrupt essential activities (e.g., nesting) of a sensitive or special-status species</p>	<p>CEQA Guidelines Appendix G, Checklist Item IV (a)</p> <p>Federal and State Endangered Species Acts</p> <p>Migratory Bird Treaty Act</p> <p>Bald Eagle Protection Act</p> <p>Native Plant Protection Act</p> <p>City of Sonoma General Plan Policy 2.2 and Policy 2.9</p>
BIO-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<p>Direct removal of any riparian community, oak woodland, or other sensitive natural community (except wetlands)</p> <p>Alteration of a sensitive natural community that could result in local degradation</p> <p>Indirect disturbance (e.g., addition of lighting) that could reduce habitat function and value</p>	<p>CEQA Guidelines Appendix G, Checklist Item IV (b)</p> <p>California Oak Woodland Conservation Act</p> <p>Natural Community Conservation Act</p> <p>City of Sonoma General Plan Policy 2.3</p>
BIO-3: Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<p>Placement of fill in wetlands, waters of the U.S., or waters of the State</p> <p>Discharge of materials into wetlands, waters of the U.S., or waters of the State</p> <p>Indirect disturbance (e.g., fugitive dust) that could contribute to erosion and/or negatively impact water quality of wetlands, waters of the U.S., or waters of the State</p>	<p>CEQA Guidelines Appendix G, Checklist Item IV (c)</p> <p>Clean Water Act section 404 and 401</p>
BIO-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Create a barrier to movement resulting in loss or harm to migratory or local wildlife	<p>CEQA Guidelines Appendix G, Checklist Item IV (d)</p> <p>Migratory Bird Treaty Act</p> <p>City of Sonoma General Plan Policy 2.2 and Policy 2.9</p>

Evaluation Criteria	Significance Thresholds	Sources
BIO-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Conflict with an applicable local policy or ordinance	CEQA Guidelines Appendix G, Checklist Item IV (e) City of Sonoma General Plan Policy 2.2, Policy 2.3, Policy 2.6, and Policy 2.9
BIO-6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Conflict with an approved conservation plan	CEQA Guidelines Appendix G, Checklist Item IV (f) Natural Community Conservation Act

3.3.4 Approach to Analysis

An evaluation of the significance of potential impacts on biological resources must consider both direct effects to the resource as well as indirect effects in a local or regional context. Potentially significant impacts would generally result in the loss of a biological resource or obviously conflict with local, state, or federal agency conservation plans, goals, policies, or regulations. Actions that would potentially result in a significant impact locally may not be considered significant under CEQA if the action would not substantially affect the resource on a population-wide or region-wide basis.

The Project site was surveyed during three site visits on August 24, 2018, May 6, 2019, and August 7, 2019. Field investigations included a general inspection to adequately characterize existing habitat with emphasis on areas having the potential to support special-status species or critical habitats. A search of the USFWS National Wetland Inventory was conducted on May 15, 2019 for the Project vicinity.

Available information pertaining to biological resources directly or indirectly affected by proposed actions was reviewed during this analysis, including (but not limited to):

- Aerial imagery of the Project Area and vicinity;
- The Biological Resource Report developed for the Project (GHD 2019, Appendix D);
- 7.5 minute Sonoma topographic quadrangle (USGS 2012);
- Natural Resources Conservation Service's (NRCS) Web Soil Survey (WSS).
- U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) (IPaC 2019);
- National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) for Sonoma quadrangle (NMFS 2019); and
- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database RareFind 5/Biogeographic Information and Observation System (CNDDDB/BIOS) (CDFW 2019); and
- California Native Plant Society (CNPS), Inventory of Rare and Endangered Plants for the Sonoma and eight surrounding USGS topographic quadrangles (CNPS 2019b).

The setting described in this chapter is based on conditions observed during the site reconnaissance surveys. Additional information, such as a full plant list of species observed on-site, can be viewed in the Biological Resources Report for the Project (Appendix D).

Based on a review of available information and survey findings, the proposed Project has the potential to directly or indirectly affect biological resources as well as contribute to cumulative impacts. Potential impacts to biological resources can be temporary, long-term, or permanent, depending on the effect of Project activities on an individual resource.

3.3.5 Impacts and Mitigation Measures

Table 3.3-2 (Summary of Impacts – Biological Resources) provides a summary of potential impacts from the Project.

Table 3.3-2 Summary of Impacts – Biological Resources

Impact	Project Significance
BIO-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	LSM
BIO-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	LS
BIO-3: Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	NI
BIO-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	LS
BIO-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	LSM
BIO-6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	NI
BIO-C-1: Would the project result in a cumulatively considerable contribution to impacts related to biological resources?	LS

Notes: NI = No Impact
 LS = Less than Significant
 LSM = Less than Significant with Mitigation

Impact BIO-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Construction

Special-Status Aquatic Resources

Pond turtles occur in a variety of permanent and semi-permanent freshwater aquatic habitats including lakes, rivers, ponds, creeks, and marshes. The species is frequently observed basking on exposed banks, logs, and rocks. Winter activity is possible but limited to unusually warm, sunny days; normally pond turtles are dormant during winter months on the north coast; dormancy typically involved

burrowing into loose substrate above the high water mark. Overwintering sites can include undercut banks, burrowing under leaf/needle litter, or in soil or mud.

There is a CNDDDB occurrence for western pond turtle in Nathanson Creek 0.5 mile upstream of the Project site. Aquatic habitat for this species does not occur within the renovation area, and the Project improvements are set back a minimum 50 feet from the top of bank. Although the species has been known to travel into upland habitats around their main water body, due to the daily use/disturbance by school children and regular turf maintenance regime at the site, it is unlikely this species would utilize habitat outside of Nathanson Creek.

The California Giant Salamander and Steelhead Trout have moderate potential to be present in Nathanson Creek. These are predominantly or completely aquatic creatures, and have reportedly been known to occur in Nathanson Creek in the past. Steelhead trout were documented in Nathanson Creek and a few Chinook were reported during surveys in 2004 and 2005 (Leidy 2005, Sonoma Ecology Center 2007, Prunuske Chatham Inc. 2015). Aquatic habitat for these species is limited to Nathanson Creek. Similar to the Western Pond Turtle, it is unlikely any of the amphibian species would utilize habitat outside of Nathanson Creek, within the renovation area, due to the school athletic field use and conditions and lack of cover or complex habitat structure. Steelhead Trout would likely only occur seasonally in the creek. No construction activities would occur within Nathanson Creek or within 50 feet of the top of bank.

Water quality could be affected by run-off, erosion, sedimentation, leaking equipment, chemical/material spills, or trash/debris. Construction activities could degrade water quality and/or increase erosion within or near Nathanson Creek if not managed properly. Nathanson Creek is critical habitat for steelhead and is essential fish habitat for both Coho Salmon and Chinook Salmon. In addition, Nathanson Creek could support western pond turtle, California Giant Salamander, and Steelhead Trout. No project improvements are proposed within Nathanson Creek. As described in Section 2.8 (Project Minimization and Avoidance Measures), Project Design Feature 2 (Stormwater Pollution Prevention Plan) would include erosion and sediment control measures, and address pollutant sources and implement best management practice within and around the work area to prevent pollutants from entering the creek. Therefore, the impact to water quality in Nathanson Creek would be **less than significant**.

Special-Status Plants

The Project site habitats and vegetation communities are predominantly located in Nathanson Creek and the adjacent riparian area and would remain unaffected outside the zone of construction.

Seven special-status plant species were evaluated for occurrence within the Project site. Most plant species are unlikely, or have a low potential, to be present based on the lack of ideal habitat on-site. Previous and on-going site disturbance, including the previous construction of the school athletic fields, continuous usage by students, as well as vegetation management (i.e., turf maintenance and mowing), reduces the likelihood of persistence or establishment of special status plants within the Project site.

Six species of plants have a moderate potential of occurrence. These potential species include: bent-flowered fiddleneck (*Amsinckia lunaris*) (1B.2), small-flowered calycadenia (*Calycadenia micrantha*) (1B.2), pappose tarplant (*Centromadia parryi* ssp. *parryi*) (1B.2), congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*) (1B.2), thin-lobed horkelia (*Horkelia tenuiloba*) (1B.2), and cotula navarretia (*Navarretia cotulifolia*) (4.2). Several of these species have documented occurrences overlapping the Project site or within a couple miles of the Project site. These species are also tolerant of and/or prefer disturbed, weedy habitats, such as roadsides. Other species of *Centromadia* and *Navarretia* were found on-site during the last survey on August 7, 2019. Five of the six plant species listed above are of CNPS rank 1B status. This status meets the definitions of Rare or Endangered under CESA and CFGC, and are eligible for state listing (GHD 2019).

The renovation area contains approximately two acres of fallow, annual grassland areas that could be suitable for these species to establish or persist. Although none of these species were observed during site reconnaissance, surveys were not conducted during a time when they could be identified. If any of these species were occurred within the renovation area, and were disturbed during construction, this would be a **significant** impact.

Special-Status and Migratory Birds

Swainson's Hawks breed across interior portions of North America. The vast majority of the population migrates from these breeding areas to wintering grounds in South America. On their breeding grounds, they are closely tied to their foraging habitats: open stands of grass-dominated vegetation, sparse shrub lands, open woodlands, or agricultural lands. They typically build nests in trees within or near these areas. During the breeding season, they primarily feed on rodents, rabbits, and reptiles. In contrast, Swainson's Hawks are almost exclusively insectivorous during the wintering season. In 2013, there was a nest occurrence reported a little over two miles from the Project site in the neighboring Sonoma Creek riparian area. There is a potential this species could utilize habitat in or near the Project site.

Trees and understory within and adjacent to the Project site could provide potential habitat for nesting birds. Migratory birds forage and nest in a variety of habitats, including urban areas. It is unlawful to destroy an active bird nest or create a disturbance near an active nest that results in nest abandonment.

Habitat within and adjacent to the Project site provides suitable nesting opportunities for Bank Swallows, Swainson's Hawks and many other migratory bird species. Four trees would be removed during construction that could provide nesting habitat. In addition, the equipment required during construct would increase ambient sound levels. This added disturbance could cause nest abandonment and/or direct mortality to eggs and chicks during tree removal. This would be a **significant** impact.

Pallid Bats

In California, the Pallid Bat is found throughout the state with the exception of the high Sierras. Pallid Bats are commonly associated with habitats such as grassland, scrub, woodland, mixed conifer, and redwood forest. They utilize day and night roosts in a variety of habitat types including bridges, mines, barns, rocks pile, rocky outcroppings, dead tree snags, live old-growth tree basal hollows, and buildings. In general, this species roosts in places that protect them from temperature extremes. During the day, the species uses these sites to go into a shallow state of inactivity, or torpor. Day roosts may include up to 200 individuals. In some cases, roosts may include other bat species.

Foraging habitats include agricultural areas, riparian woodland, open pine forests, oak savannah, and talus slopes. Pallid Bats forage close to the ground surface and glean prey from the ground or off exposed vegetation. They rely primarily on passive hearing to locate prey moving on the ground. Most activity occurs 90 to 190 minutes after sunset and a couple hours before dawn. As temperatures drop in the fall, shorter periods of activity happen, and these periods drop off substantially below 35 degrees Fahrenheit.

The species breeds in the fall and winter (October through as late as February in coastal locations). Maternity colonies are typically formed in April and may consist of up to 100 individuals. Females typically give birth to twin pups in May or June. The species hibernates during the winter, but may arouse to forage and drink water. As a colonial roosting species, Pallid Bats are very sensitive to roost site disturbance. This is particularly true in the case of maternity colonies.

Ground foraging bats, as opposed to the aerial “hawking” species, are typically light averse. While hawking species are drawn to lights due to the increased insects, slower, less agile, ground foragers are found to avoid these areas; perhaps because they are more vulnerable to terrestrial predators that could see them in the light.

There are two CNDDDB occurrences reported just over a mile away from the Project site in the Sonoma Creek riparian area. In addition, there is suitable within and adjacent to the Project site for roosting, therefore it is possible for this species to occur in the Project site. Four trees would be removed during construction which may provide roosting habitat. In addition, potential effects of construction noise on bats would include: acute acoustic trauma, signal masking, and disturbance/displacement from important food and shelter resources. This would be a **significant** impact.

Operation

The proposed Project would convert urban lawn and a small amount of fallow annual grassland to accommodate Project facilities. Potential impacts to special status species are not expected to differ from existing use of the athletic facilities, although the proposed lighting will differ from existing lighting.

The Project improvements include installation of LED sports lighting around the track & field, which would be focused to the areas of play within the track & field (see Appendix B). This light system minimizes light spill and glare outside the

target area. The sports lights would be shielded and aimed directly down and not directed toward sensitive wildlife habitats or corridors.

The majority of field activities would occur during daylight hours and therefore would not require the use of the lights. Lights would only be necessary when events would be held after daylight hours (see Section 2.6.2 Lighting, in the Project Description), particularly in the late fall, winter, and early spring. Slower, less agile, ground foraging bats, such as the Pallid bat, avoid nighttime lighting. However, given the design of the lights, infrequent use, and ample foraging areas along Nathanson Creek above and below the proposed track & field, the nighttime lighting is not anticipated to impact the foraging ability of bats. The potential impact related to the proposed lighting and other operations would be **less than significant**.

Significance

Significant

Mitigation

BIO-1a: Avoid Impacts to Special-Status Plants

The District shall have a qualified botanist conduct a botanical clearance survey in potentially impacted natural, semi-natural or unmaintained areas during the time of year when the special status species with the potential to occur in the renovation area, as described in the Biological Resources Report (GHD 2019), are blooming and identifiable. Potential sensitive plant species that may occur at the Project site have an overlapping bloom period in June. A report summarizing the results of the plant survey shall be provided to the District. If a special-status plant is found, the report shall also recommend location-specific avoidance measures to implement during construction, including appropriate set-backs and installation of protective temporary construction fencing. If avoidance is not feasible, recommendations shall be provided as to the need or feasibility of relocating the plants or collecting seeds prior to the start of construction. If relocating or seed collection is appropriate and feasible, the report shall indicate an on- or off-site location for relocation or seed storage.

BIO-1b: Avoid Impacts to Nesting Birds

Removing trees, and clearing shrubs and other vegetation shall be conducted, if possible, during the fall and/or winter months and outside of the avian nesting season (February 1st through August 31st) for Sonoma County to avoid any direct effects to special status and protected birds. If vegetation removal (including trimming of vegetation) cannot be confined to work outside of the nesting season, a qualified biologist shall conduct pre-construction surveys within construction footprint and 300 feet of a tree, to check for bird nesting activity and to evaluate the site for presence of special-status bird species. The biologist shall conduct a minimum of one day pre-construction survey within the 7-day period prior to vegetation removal and ground-disturbing activities. If ground disturbance and vegetation removal work lapses for seven days or longer during the breeding season, a qualified biologist shall conduct a supplemental avian pre-construction survey before project work is reinitiated.

If active nests are detected within the construction footprint or within 300 feet of construction activities, the biologist shall flag a buffer around each nest. Construction activities shall avoid nest sites until the biologist determines that the

young have fledged or nesting activity has ceased. If nests are documented outside of the construction (disturbance) footprint, but within 300 feet of the construction area, buffers will be implemented as needed. In general, the buffer size for common species would be determined on a case-by-case basis in consultation with the CDFW. Buffer sizes will take into account factors such as (1) noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity; (2) distance and amount of vegetation or other screening between the construction site and the nest; and (3) sensitivity of individual nesting species and behaviors of the nesting birds.

If active nests are detected during the survey, the qualified ornithologist shall monitor all nests at least once per week to determine whether birds are being disturbed. Activities that might, in the opinion of the qualified ornithologist, disturb nesting activities (e.g., excessive noise), shall be prohibited within the buffer zone until such a determination is made. If signs of disturbance or distress are observed, the qualified ornithologist shall immediately implement adaptive measures to reduce disturbance. These measures may include, but are not limited to, increasing buffer size, halting disruptive construction activities in the vicinity of the nest until fledging is confirmed, placement of visual screens or sound dampening structures between the nest and construction activity, reducing speed limits, replacing and updating noisy equipment, queuing trucks to distribute idling noise, locating vehicle access points and loading and shipping facilities away from noise-sensitive receptors, reducing the number of noisy construction activities occurring simultaneously, and/or reorienting and/or relocating construction equipment to minimize noise at noise-sensitive receptors.

Nest boxes could be removed from around the renovation area, outside of the avian nesting season (February 1st through August 31st) for Sonoma County, to avoid encouraging birds to nest there. Special care should be taken to ensure other special status wildlife species, such as bats, are not utilizing these structures before removal.

BIO-1c: Avoid Impacts to Special-Status Bats

Prior to construction the District shall have a qualified bat biologist conduct a Habitat Assessment for special-status bats, focusing on the trees to be removed. Survey methodology should include visual examination of suitable habitat areas for signs of bat use and may utilize ultrasonic detectors to determine if special status bat species utilize the vicinity.

Removal of trees that potentially support a bat maternity roost should only occur between September 1 and October 15, after the young have learned to be self-sufficient but before hibernation. Trees supporting bats should not be removed while bats are hibernating between October 15 and March 15 or otherwise while bats are present.

If a special-status bat species is found, or if suspected day roosts for special-status bats are identified, then the Habitat Assessment shall identify suitable performance measures for avoiding impacts to roosts, which may include, but would not be limited to:

- Consultation with the California Department of Fish and Wildlife to determine appropriate measures for protecting bats with young if present, and for implementing measures to exclude non-breeding bat colonies during construction process.
- Phased removal of trees where selected limbs and branches not containing cavities are removed using chainsaws on the first day, with the remainder of the tree removed using chainsaws or other equipment on the second day.

If no bat utilization or roosts are found, then no further study or action is required.

After Mitigation *Less than Significant with Mitigation*

Implementation of Mitigation Measure BIO-1a would reduce the potential construction impact to special-status plants to **less than significant** by providing a process for identifying and protecting the plants. Implementation of Mitigation Measures BIO-1b and BIO-1c would reduce impacts to nesting birds and bats by limiting construction and vegetation removal to specified work windows, and if that is not feasible, then by providing a procedure to follow to identify nests and/or roosts and establish buffers and other avoidance measures until nesting and/or roosting is complete. With the implementation of Mitigation Measures BIO-1a through BIO-1c, the potential impact on special status species and communities would be **less than significant**.

Impact BIO-2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Construction

Project improvements are located beyond 50 feet from the top of bank and would not encroach in the riparian corridor. The City's Municipal Code requires a 30-foot setback. As noted under Impact BIO-1, Project Design Feature 2 (Stormwater Pollution Prevention Plan) would include erosion and sediment control measures, and address pollutant sources and implement best management practice within and around the work area to prevent pollutants from entering the creek. Of the four trees that would be removed as part of the Project, none are within the riparian corridor. The construction-related impacts to the riparian habitat would be **less than significant**. No other sensitive communities exist at the Project site.

Operation

Project operation would not encroach into the riparian corridor, but would continue similar to existing conditions in that athletic events would be held and fields would be maintained. It would not involve any activities within the riparian corridor other than pedestrians using the bridges and trails, which occurs under existing conditions and would not increase the effect on the riparian habitat. The potential impact from Project operations would be **less than significant**.

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact BIO-3: Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

During one of the site visits in support of the Biological Resources Report, a wetland ecologist surveyed the renovation area for jurisdictional wetlands. Although a constructed drainage ditch was noted on the south and east sides of the fields, no jurisdictional wetlands were found. The drainage channel, for the most part, lacks any ordinary high water mark, is constructed in uplands, and maintained as a drainage. Data points were taken at six locations, of which three had marginal hydrology and wetland vegetation indicators, but none had hydric soils. As the renovation area does not contain jurisdictional wetlands, there would be **no impact** to state or federally protected wetlands.

Significance *No impact*

Mitigation No mitigation is required.

Impact BIO-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Wildlife movement corridors are areas that connect suitable wildlife habitat areas in a region otherwise fragmented by extensive urban development, changes in vegetation, or human disturbance. Wildlife movement corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas, and facilitate the exchange of genetic traits between populations.

The primary wildlife corridor is limited to the Nathanson Creek riparian zone, which extends north and south through the Project site. The balance of the Project site is primarily a heavily developed urban neighborhood. Construction and operation of the Project would not impact either the creek or the riparian corridor as improvements are set back a minimum 50 feet from the top of bank, and outside of the riparian area. Therefore, wildlife and fish that may use this corridor would not be impeded. Impacts to wildlife migration would be **less than significant**.

Significance *Less than significant*

Mitigation No mitigation is required.

Impact BIO-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Local policies protecting biological resources include *City of Sonoma 2020 General Plan* and include Policy 2.2 (preserve habitat), Policy 2.3 (protect and enhance riparian corridors), Policy 2.6 (preserve existing trees and plant new trees), and Policy 2.9 (require avoidance of impacts during development). If construction were to damage the riparian area of Nathanson Creek or remove trees without replacement, the Project would conflict with these adopted policies to protect natural resources. This would be a **significant** impact.

The City of Sonoma also has a Tree Ordinance (Municipal Code Chapter 12.08) for the protection of trees within the City. The tree ordinance requires mitigation for removal of significant trees, defined as 1.5 feet diameter at breast height, and establishment of non-intrusion zones based on the size of the trees to be protected. Approximately four trees are planned for removal within the renovation area. Based on size, all four qualify as “significant” trees requiring mitigation planting of 17 trees. As noted in Chapter 2 (Project Description) approximately 64 trees would be planted throughout the renovation area. There would be no conflict with the portion of the Tree Ordinance related to the replanting of trees removed. The ordinance also requires that “non-intrusion zones” be fenced around trees that will be protected during construction of a project. If construction activities were to occur within these zones, it could damage the root-system of a tree. As construction documents are not yet available, it cannot be verified that applicable trees within the renovation would have fencing and avoid construction within the non-intrusion zone. Non-compliance with this ordinance would be a conflict and therefore a **significant** impact.

Significance

Significant

Mitigation

BIO-5: Comply with City of Sonoma Tree Ordinance Non-intrusion Zone Requirements.

The District shall comply with the parameters found in the City of Sonoma Tree Ordinance (Municipal Code Chapter 12.08 Tree Ordinance) for establishment of non-intrusion zones around protected trees during construction.

Mitigation Measure BIO-1a: Avoid Impacts to Special-Status Plants

[Refer to Impact BIO-1 for the complete text of this mitigation measure]

Mitigation Measure BIO-1b: Avoid Impacts to Nesting Birds

[Refer to Impact BIO-1 for the complete text of this mitigation measure]

Mitigation Measure BIO-1c: Avoid Impacts to Special-Status Bats

[Refer to Impact BIO-1 for the complete text of this mitigation measure]

After Mitigation

Less than Significant with Mitigation

Implementation of Mitigation Measure BIO-5 will ensure compliance with the Tree Ordinance, thus avoiding a conflict with a local policy or ordinance to protect trees. Adherence to Mitigation Measures BIO-1a through BIO-1c would protect special-status plants, birds, and bats that may occur at the Project site. The resulting impact would be **less than significant**. In addition, Project Design Feature 2 (Stormwater Pollution Prevention Plan) would include erosion and sediment control measures, and address pollutant sources and implement best management practice within and around the work area to prevent pollutants from entering Nathanson Creek. With implementation of the Project Design Feature 2 and Mitigation Measures BIO 1a, BIO-1b, BIO-1c, and BIO-5 there would be no conflict with applicable policies from the *City of Sonoma 2020 General Plan* that have been adopted for the purpose of protecting biological resources.

Impact BIO-6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The Project site is not located within the boundaries of an adopted Habitat Conservation Plan, NCCP, or other approved local, regional, or state habitat conservation plan. As such, the Project would not conflict with the provisions of an applicable plan. **No impact** would occur.

Significance *No impact*

Mitigation No mitigation is required.

3.3.6 Cumulative Impacts

Impact BIO-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to biological resources?

The geographic boundary for cumulative impacts related to biological resources would be the range of species that would potentially be impacted by the Project.

The Project has potential impacts to special-status aquatic, plant, and bat species, as well as nesting birds. Implementation of some of the cumulative projects listed in Table 3-1 (Projects Considered for the Cumulative Analysis) could have similar impacts as described for the Project. Many of the cumulative projects, in particular those related to renovations at other school sites, the Highway 12 Restriping and Improvements Project, and several of the small infill projects would have minimal to no impact on biological resources as they mostly involve renovations to existing facilities or already developed sites. However, some projects could foreseeably impact biological resources similar to the Project such as Fryer Creek Pedestrian and Bicycle Bridge Project, or projects occurring on vacant/natural landscape such as the Olivia Apartments Project and Altamira Apartments. According to the initial studies for the two latter projects, the only biological impact identified was potential impacts to nesting birds during construction. Both initial studies identified mitigation measures to minimize and avoid impacts to nesting birds, resulting in a less-than-significant impact. As to the Fryer Creek Pedestrian and Bicycle Bridge Project, impacts related to California red-legged frog, western pond turtle, water quality, nesting birds, and tree removal were identified in that project's Initial Study. All impacts were reduced to less than significant with the incorporation of mitigation. In addition, the bridge project is subject to regulatory permits and the conditions for protecting resources that come with such permits. Given the minimal biological impacts that could result from the cumulative projects identified in Table 3-1, and those projects with potential impacts have all been avoided or reduced with the incorporation of mitigation or are subject to regulatory permits, the cumulative impact to biological resources would be **less than significant**.

As discussed under Impact BIO-1 and BIO-5, the Project's impact on special-status and sensitive species would be reduced to a less-than-significant level with implementation of Mitigation Measures BIO-1a, BIO-1b, BIO-1c, and BIO-5, which would require compliance with appropriate resource agency recommendations for avoiding and minimizing impacts during Project construction, avoiding tree

removal during the nesting season, conducting preconstruction nesting and bat roost surveys when avoidance is not feasible, and compliance with the non-intrusion zone requirements in the tree ordinance.

With implementation of Mitigation Measures BIO-1a, BIO-1b, BIO-1c, and BIO-5, as well as compliance with Project Design Features identified in Chapter 2 (Project Description), the Project's contribution to cumulative impacts related to special-status plants, nesting birds, roosting bats, water quality, and trees would be **less than significant**.

Significance	<i>Less than Significant</i>
Mitigation	No mitigation is required.

3.4 Cultural and Tribal Cultural Resources

This section evaluates the potential impacts related to cultural and tribal resources from implementation of the Project. In addition to the analysis provided in this section, the following subject has been previously related to cultural resources, but is now evaluated in another section of this EIR:

- Potential impacts to paleontological resources are addressed in Section 3.5 (Geology, Soils, and Seismicity).

A cultural resources report was prepared by the Anthropological Studies Center for the Project and is used as a basis for summarizing the existing setting and evaluation of potential cultural and tribal cultural impacts (ASC 2019).

3.4.1 Existing Setting

The following sections describe the environmental setting for cultural resources within the region, greater project area, and Project site. Potential impacts to cultural or tribal cultural resources would be confined to the renovation area within the SVHS Campus, but the setting of both the Project site and immediate vicinity are described to account for uncertainties about potential locations of buried cultural and tribal cultural resources. In this section, Study Area is defined as being within a 0.25-mile radius of the renovation area.

The following is based on the *Cultural Resources Study* prepared by the Anthropological Studies Center (ASC), dated July of 2019.

Cultural Chronology

Paleo-Indian Period (Prior to 8,500 B.P.)

The earliest archaeologically documented human occupation in California, the Paleoindian period (ca. 10,000-6000 B.C.), was a time of variable climate, rising sea levels, and other broad-scale environmental change. People lived in small, highly mobile groups, moving through broad geographic areas and leaving relatively sparse archaeological remains.

Archaic Period (6000 B.C. to A.D. 1000)

With the more stable climate of the long Archaic period (6000 B.C. to A.D. 1000), new groups entered the area, and regional distinctions developed. Some groups may have remained mobile, while others began to establish longer-term base camps in places from which a more diverse range of resources could be exploited. The Archaic period has been subdivided into three sub-periods (Lower Archaic, 6000 to 3000 B.C.; Middle Archaic, 3000 B.C. to 500 B.C.; and Upper Archaic, 500 B.C. to A.D. 1000), based on changes in sociopolitical complexity, trade networks, populations, and the introduction of new artifact types. Many of the archaeological sites in the North Coast Ranges were first used in the Middle and Upper Archaic, when populations were increasing and groups moved into new areas to exploit a more diverse range of resources, suggested by sites in a wider range of environments and the addition of new tool types such as milling tools and concave-base projectile points of obsidian and chert. By the Upper Archaic, mobility was being replaced by a more sedentary adaptation that included a reliance on intensive acorn processing and storage. With the development of numerous small villages, the beginnings of a more complex society and economy began to emerge.

Late or Emergent Period (ca. A.D. 1000 to the historic era)

During the Emergent, or Late, period (ca. A.D. 1000 to the historic era), social complexity developed toward the contact-era settlement pattern of large, central villages where political leaders resided, with associated hamlets and specialized activity sites. Innovations associated with this period include the bow and arrow, small corner-notched projectile points, and a diversity of beads and ornaments. Archaeological sites dating to this period are common throughout the North Coast Ranges. Site types include places of ritual significance, such as rock art locations. Other sites are small resource-processing areas marked by flaked stone tools or milling equipment such as mortars and pestles, and by debris (debitage) from manufacturing and using stone tools. Still others are moderate- to large-sized occupation sites marked by midden soils, dietary bone and shell, and a diversity of artifacts.

Ethnographic Context

The traditional lifeways of the indigenous people who inhabited the region encompassing the Study Area during the early-to-middle 20th century were recorded through intensive ethnographic research efforts. Ethnographic literature indicates that at the time of historic contact, the Study Area lies within the traditional territory of the Coast Miwok, centered in present-day Marin and adjacent Sonoma counties. The Study Area is near the linguistic border with Wappo speakers to the east. The people collectively called the Coast Miwok by ethnographers actually comprised several distinct sociopolitical groups who spoke dialects of the same Penutian language. They have been referred to as three separate tribes: the Olamentko of Bodega Bay, the Lekahtewut between Petaluma and Freestone, and the Hookooeko Tribe in Marin District. The primary sociopolitical unit was the village community, which was overseen by one or more chiefs.

Located approximately one mile north of the renovation area was the ethnographic village *Hūtcī*, located near the plaza in the town of Sonoma (Barrett 1908). The Sonoma Mission may have been built on top of *Hūtcī*.

The Coast Miwok economy was based on hunting, fishing, and gathering. The territory held by local groups would have included open valley environments containing a wide variety of resources, including grass seeds, acorns, bulbs and tubers, bear, deer, elk, antelope, a variety of bird species, and rabbit and other small mammals, along with bay resources such as shellfish, marine mammals, and fish. The Coast Miwok acknowledged private ownership of goods and songs, and village ownership of rights to land and/or natural resources. They appear to have aggressively protected their village territories, requiring monetary payment for access rights in the form of clamshell beads, and even shooting trespassers if caught.

After European contact, Coast Miwok society was severely disrupted by missionization, disease, and displacement. Coast Miwok population numbers diminished dramatically during the mission era, and they dropped further following secularization in the early 1830s. Kroeber (1925:275) estimated that the population of the Coast Miwok in 1908 was 1,500 people. Indigenous people were employed as farm workers and commercial fishers in Marin and Sonoma counties.

The Coast and Bay Miwok as a cultural group were landless from the early 19th century until 1920, when the federal government established a 15.1-acre Rancheria near Graton for Bay and Coast Miwok and local Southern Pomo families. The federal government terminated the Rancheria in 1958 and dispersed the lands to three families. After a long legal battle, federal recognition was restored

in 2000, and the multi-cultural native organization became the Federated Indians of Graton Rancheria.

Historic Context

The historic era began at different times in different parts of California, as Euro-Americans moved into regions where indigenous populations had been reduced or eliminated completely by waves of Old World diseases that preceded them. Subsequent government policies and ad-hoc vigilante efforts by settlers led to forced removals and violence towards local indigenous communities, resulting in new, mostly immigrant communities embedded in the new economies of ranching, timber harvesting, and farming.

The first known European explorations near the Study Area were likely those of Sir Francis Drake, who sailed along the California coast in the summer of 1579, and Sebastian Rodriguez Cermeño in 1595. Spanish missionaries established Mission San Rafael in 1817 and Mission San Francisco Solano de Sonoma in 1823 to convert and control the local indigenous population. Mission San Francisco Solano, the northernmost and last of the 21 California missions, was a plain, low building with an overhanging roof covering the corridors of the wing.

Mexico gained independence from Spain in 1821, expelled the missionaries, and broke up the mission lands in a process called secularization from 1834 to 1836. The region that is now Sonoma District was segmented into large land grants called *ranchos*, issued to Mexican citizens in order to encourage settlement of California to secure the territory. In 1835, Mariano G. Vallejo established the Pueblo de Sonoma. He laid out the main streets of Sonoma and began building a barracks building west of the mission and a large building, La Casa Grande, for his family. The mission chapel was also rebuilt by Vallejo. It was then sold in 1881 to Solomon Schocken. The mission was deeded to the State of California in 1903 and represents a portion of Sonoma State Historic Park, centered on Sonoma Plaza, which also includes the Blue Wing Inn, Sonoma Barracks, Toscano Hotel & Kitchen, La Casa Grande, and General Vallejo's Home.

The first non-Spanish European settlers came into the area in the late 1830s. After the U.S. army suffered losses moving into disputed territory in Texas, the U.S. declared war on Mexico in May of 1846. The Bear Flag Revolt against the Mexican government, which began about a month later in 1846, contributed to Mexico's loss of California. The war ended with the Treaty of Guadalupe Hidalgo, signed on 2 February 1848. With that treaty, Mexico ceded territory including California to the United States. The United States established a process for recognizing ownership of Spanish and Mexican land grants, but cases typically took years to resolve.

California became a state in 1850, and Sonoma District is one of the original 27 counties. The District seat was located in Sonoma from 1850 to 1854. In the late 1850s, Hungarian immigrant, Agoston Haraszthy arrived in Sonoma Valley. He helped found the state's first official winery, Buena Vista Winery. Viticulture soon took off, and by 1876 Sonoma Valley produced more than 2.3 million gallons of wine a year. Soon thereafter, a devastating outbreak of phylloxera nearly ended wine making in Sonoma Valley. In the 1880s, the town of Sonoma languished and the Sonoma Plaza fell into a state of neglect. The mission decayed and deteriorated. Sonoma lay relatively isolated until 1890 when the first standard gauge railroad ran through the valley. This line ran along Spain Street and included a depot on Sonoma Plaza, a turntable and engine house. In the 1890s, Sonoma Valley began recovering from the phylloxera outbreak. Multiple resorts opened after hot springs were located at Boyes Hot Springs, bringing many visitors to the area. Sonoma City Hall was dedicated in 1908.

Study Results

ASC Staff Archaeologist Scott McGaughey conducted the records and literature search at the NWIC on June 3, 2019, supplemented by further literature review at ASC and online. The records search found no previously recorded cultural resources within the renovation area, and that portions of the Project site had been previously studied. The records search identified thirteen historic-era cultural resources outside the renovation area but within the 0.25-mile buffer of the Study Area (Table 3.4-1). All of the identified historic era cultural resources are part of the built environment and consist of structures and buildings.

Table 3.4-1 Recorded Cultural Resources in the Study Area

Primary No.	Trinomial	Era	OHP Status	Description
P-49-002305	CA-SON-1806H	Historic	Not evaluated	Residential complex remains
P-49-003252	None	Historic	6Y: Determined ineligible for NR. Not evaluated for CR	Craftsman-style bungalow
P-49-003815	None	Historic	6Z: Determined ineligible for NR. Not evaluated for CR, or local register	Chicken ranch complex
P-49-004612	None	Historic	6Y: Determined ineligible for NR. Not evaluated for CR	One-story concrete commercial building
P-49-004613	None	Historic	6Z: Determined ineligible for NR. Not evaluated for CR, or local register	Former Cumberland College and Sonoma High School
P-49-004759	None	Historic	3S: Appears eligible to NR	Two-story house
P-49-004760	None	Historic	7N: Needs to be reevaluated	Prestwood School
P-49-004761	None	Historic	6Y: Determined ineligible for NR. Not evaluated for CR	Sonoma Valley High School
P-49-004801	None	Historic	6Z: Determined ineligible for NR. Not evaluated for CR, or local register	One-story font gabled building
P-49-005840	None	Historic	6Y: Determined ineligible for NR. Not evaluated for CR	Single-story residential building
P-49-005841	None	Historic	Not evaluated	Single-story residence
P-49-005842	None	Historic	Not evaluated	Single-story residence
P-49-005930	None	Historic	3CS: Appears eligible for CR	One-story gas station

Source: ASC 2019

ASC carried out a pedestrian archaeological field survey of the entire 16.8-acre renovation area on June 7, 2019. The pedestrian archaeological survey identified no archaeological resources within the renovation area. One isolated obsidian nodule was located in disturbed soil associated with the installation of a water drinking fountain. A concrete memorial plaque underneath a lone redwood tree was located near the northwest corner of the existing basketball courts. The plaque reads “In Memory of Our Friend Lallie Neles”. This plaque was not recorded because it is unclear of the age and association as a resource.

Native American Tribal Resources

Native American Heritage Commission

ASC Staff contacted the Native American Heritage Commission (NAHC) on May 29, 2019, requesting a review of the Sacred Lands File for information on Native American cultural resources in the renovation area. On June 13, 2019, the NAHC responded with a list of groups and individuals who may be able to provide additional information on the potential for cultural resources in the renovation area, and indicated that the search of the Sacred Lands File was negative. On June 17, 2019, letters were sent to the full list of groups and individuals provided by the NAHC, including the Federated Indians of Graton Rancheria (FIGR), Cloverdale Rancheria of Pomo Indians, Lytton Rancheria, Dry Creek Rancheria Band of Pomo Indians, Middletown Rancheria, Mishewal-Wappo Tribe of Alexander Valley, and Kashia Band of Pomo Indians of the Stewarts Point Rancheria requesting any additional information about the Project Area they wished to share. On July 8, 2019, a response was received from Lytton Rancheria who indicated they have no specific information regarding the Project Area, they believe that the Project lies within traditional Pomo territory and that there is potential for finding tribal cultural resources on the Project site. They indicated they would be consulting further with the appropriate lead agency. On July 29, 2019, ASC informed Lytton Rancheria that the Tribe had not previously send a request to consult with the District under AB 52. On July 30, 2019, the Tribe responded and indicated that there is no need for the District to issue an AB 52 letter for this Project.

On July 18, 2019, a response was received from Federated Indians of Graton Rancheria (FIGR) Administrative Assistant Hector Garcia on behalf of Tribal Heritage Preservation Officer (THPO) Buffy McQuillen indicating that the Project Area is located within the Tribe's ancestral territory and that there may be cultural resource impacts associated with the Project. FIGR requested the results of research efforts and any recommendations. A draft cultural resources report was sent to Mr. Garcia on July 18, 2019. On July 29, 2019, FIGR THPO Buffy McQuillen was informed that the Tribe had not previously sent a request to consult with the District under AB 52. Ms. McQuillen indicated that the Tribe would send an initial letter and requested the information of the District contact person.

AB 52 Consultation

On July 29, 2019, the District received a letter from FIGR requesting formal notice of and information on proposed projects for which the District would serve as lead agency under CEQA. FIGR is the only tribe to date that has formally requested notification on District projects. The District sent a formal notification to the tribe regarding the proposed Project on August 2, 2019. On September 4, 2019, the District received a letter from FIGR requesting unspecified further documentation of the records search conducted. The District reached out on September 5, 2019, and again on September 10 and September 25, 2019, to clarify the request as the complete cultural resources report had already been forwarded to FIGR on July 18, 2019. On September 25, FIGR replied indicating there was an expectation of a meeting between the District and FIGR. On October 1, 2019, the District replied with an invitation to meet at FIGR's convenience and also provided the draft mitigation measure, CTR-4 (Minimize Impact to Unknown Tribal Cultural Resources), for FIGR's review. Coordination with FIGR is ongoing.

3.4.2 Regulatory Framework

Federal

National Historic Preservation Act

The National Register of Historic Places (NRHP) is the official list of the Nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Park Service's National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archaeological resources.

National Register Bulletin Number 15, How to Apply the National Register Criteria for Evaluation describes the Criteria for Evaluation for the National Register as being composed of two factors (US Department of the Interior 1997). First, the property must be "associated with an important historic context." The National Register identifies four possible context types, of which at least one must be applicable at the national, state, or local level. As listed under Section 8, "Statement of Significance," of the National Register of Historic Places Registration Form, these are:

- Property is associated with events that have made a significant contribution to the broad patterns of our history.
- Property is associated with the lives of persons significant in our past.
- Property 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 lack individual distinction.
- Property has yielded, or is likely to yield, information important to prehistory or history.

Second, for a property to qualify under the NRHP's Criteria for Evaluation, it must also retain "historic integrity of those features necessary to convey its significance." While a property's significance relates to its role within a specific historic context, its integrity refers to "a property's physical features and how they relate to its significance." To determine if a property retains the physical characteristics corresponding to its historic context, the National Register has identified seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association.

State

California Environmental Quality Act

Historic Resources and Unique Archaeological Resources

CEQA requires lead agencies to determine if a proposed project would have a significant effect on historical resources and unique archaeological resources. CEQA Guidelines Section 15064.5 defines a historical resource as: (1) a resource listed in the California Register of Historical Resources; (2) a resource included in a local register of historical resources, as defined in the California Public Resources Code (PRC) Section 5020.1(k), or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or (3) any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of CEQA Statute PRC Section 21084.1 and CEQA Guidelines Section 15064.5 would apply. If an archaeological site does not meet the CEQA Guidelines criteria for a historical resource, then the site may meet the threshold of CEQA Statute Section 21083 regarding unique archaeological resources. A unique archaeological resource is an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
- Has a special and particular quality, such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person (CEQA Statute Section 21083.2[g]).

The CEQA Guidelines note that if a resource is neither a unique archaeological resource nor a historical resource, the effects of a Project on that resource shall not be considered a significant effect on the environment (CEQA Guidelines Section 15064[c][4]).

Tribal Cultural Resources

CEQA requires lead agencies to determine if a proposed project would have a significant effect on tribal cultural resources. CEQA section 21074 defines a tribal cultural resources as: (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are included or determined to be eligible for inclusion in the California Register of Historical Resources, or 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.

While some tribal cultural resources include physical archaeological resources, described above, tribal cultural resources are not limited to physical resources that have scientific significance. Tribal cultural resources also include cultural landscapes and non-unique archaeological resources. Non-unique resources are resources that are deemed culturally significant to a tribe, but do not contain information needed for scientific purposes, and may not be the best specimen in terms of quality, uniqueness, or age.

California Register of Historical Resources

The California Register is “an authoritative listing and guide to be used by state and local agencies, private groups and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC Section 5024.1[a]). The criteria for eligibility to the California Register are based on National Register criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for or listed in the National Register.

To be eligible for the California Register as a historical resource, a prehistoric or historic-period resource must be significant at the local or State level under one or more of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Has yielded, or may be likely to yield, information important in prehistory or history (CEQA Guidelines Section 15064.5 [a][3]).

For a resource to be eligible for the California Register, it must also retain enough integrity to be recognizable as a historical resource and to convey its significance. The seven aspects of integrity are: location, design, setting, materials, workmanship, feeling and association. A resource that does not retain sufficient integrity to meet the National Register criteria may still be eligible for listing in the California Register. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register if it maintains the potential to yield significant scientific or historical information or specific data.

California Public Resources Code

As part of the determination made pursuant to PRC Section 21080.1, the lead agency must determine whether a project would have a significant effect on archaeological and paleontological resources.

Several sections of the PRC protect cultural resources and PRC Section 5097.5 protects vertebrate paleontological sites located on public land. Under Section 5097.5, no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site (including fossilized footprints), inscriptions made by humans, rock art, or any other archaeological, paleontological, or historical feature situated on public lands, except with the express permission of the public agency that has jurisdiction over the lands. Violation of this section is a misdemeanor.

PRC Section 5097.98 states that if Native American human remains are identified within a project area, the landowner must work with the Native American Most Likely Descendant as identified by the Native American Heritage Commission (NAHC) to develop a plan for the treatment or disposition of the human remains and any items associated with Native American burials with appropriate dignity. These procedures are also addressed in Section 15046.5 of the CEQA Guidelines. Section 30244 of the PRC requires reasonable mitigation for impacts on paleontological and archaeological resources that occur as a result of development on public lands.

Pursuant to §21084.1 a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. For purposes of this section, a historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources. Historical resources included in a local register of historical resources, as defined in subdivision (k) of §5020.1, or deemed significant pursuant to criteria set forth in subdivision (g) of §5024.1, are presumed to be historically or culturally significant for the purposes of this section, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant. The fact that a resource is not listed in, or determined to be eligible for listing in, the California Register of Historical Resources, not included in a local register of historical resources, or not deemed significant pursuant to criteria set forth in subdivision (g) of §5024.1 shall not preclude a lead agency from determining whether the resource may be an historical resource for purposes of this section.

A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a “nonunique archeological resource” as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

California Health and Safety Code

California Health and Safety Code Section 7050.5 prohibits disinterring, disturbing, or removing human remains from a location other than a dedicated cemetery. Section 7050.5 also requires that construction or excavation be stopped in the vicinity of discovered human remains until the Coroner can determine whether the remains are those of a Native American. If determined to be Native American, the Coroner must contact the California NAHC by telephone within 24 hours.

California Native American Historical, Cultural and Sacred Sites Act

This Act applies to both State and private lands. The Act requires that upon discovery of human remains, that construction or excavation activity cease and that the District Coroner be notified. If the remains are of a Native American, the Coroner must notify the NAHC. The NAHC then notifies those persons mostly likely to be descended from the Native American remains. The Act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.

Assembly Bill 52

Assembly Bill 52 (AB 52), the Native American Historic Resource Protection Act, sets forth a proactive approach intended to reduce the potential for delay and conflicts between Native American and development interests. Projects subject to AB 52 are those that file a notice of preparation for an EIR or notice of intent to adopt a negative or mitigated negative declaration on or after July 1, 2016. AB 52 adds tribal cultural resources to the specific cultural resources protected under CEQA. Under AB 52, a tribal cultural resource is defined as a site, feature, place, cultural landscape (must be geographically defined in terms of size and scope), sacred place, or object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the California Register, or included in a local register of historical resources. A Native American Tribe or the lead agency, supported by substantial evidence, may choose at its discretion to treat a resource as a tribal cultural resource. AB 52 also mandates lead agencies to consult with tribes, if requested by the tribe, and sets the principles for conducting and concluding consultation.

Regional and Local

City of Sonoma General Plan

The *City of Sonoma 2020 General Plan* (City of Sonoma 2006) was consulted as a source of local information, conditions, and context, as well to provide rationale for certain impact determinations where other guidance was found not to exist or lacking.

The following policy from the *City of Sonoma 2020 General Plan* is related to cultural resources for this type of project. The General Plan does not contain any goals or policies related to tribal cultural resources.

Policy 5.8 Encourage the designation and preservation of local historic structures and landmarks, and protect cultural resources

3.4.3 Evaluation Criteria and Thresholds of Significance

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized below are used to determine if the Project would have a significant effect related to cultural or tribal cultural resources. The questions in Table 3.4-2 (Evaluation Criteria and Significance Thresholds) are from CEQA Guidelines' Appendix G Environmental Checklist Section V.

Table 3.4-2 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
CTR-1: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	Adverse alteration of those physical characteristics of a historical resource that justify its eligibility for the NRHP, CRHR or as a local landmark	CEQA Guidelines Appendix G, Checklist Item V (a) City of Sonoma General Plan Policy 5.8
CTR-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Adverse alteration of those physical characteristics of an archaeological resource that justify its eligibility for the NHRP, CRHR or as a unique archaeological resource	CEQA Guidelines Appendix G, Checklist Item V (b) City of Sonoma General Plan Policy 5.8
CTR-3: Would the project disturb any human remains, including those interred outside of formal cemeteries?	Disturbance of human remains, including Native American human remains, associated grave goods, or items of cultural patrimony	CEQA Guidelines Appendix G, Checklist Item V (d),
CTR-4: Would the project cause a substantial adverse change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historic Resources, or in a local register of historic resources as defined in Public Resources Code section 5020.1(k)? Or that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to the criteria set forth in subdivision (c) of the Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of the Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	Adverse alteration of those physical characteristics of a tribal cultural resource that justify its eligibility for the NHRP, CRHR or as a unique archaeological resource, or that is of significance to a California Native American Tribe	CEQA Guidelines Appendix G, Checklist Item XVII (a) & (b) Public Resources Code 5020.1 and 5024.1

3.4.4 Approach to Analysis

The evaluation of potential impacts on cultural and tribal cultural resources is based on the potential for ground disturbance during construction activities to disturb or destroy known or previously unrecorded cultural resources, including historic or unique archaeological sites, or Native American tribal cultural resources. The renovation area (as shown on Figure 2.2) and the area within 0.25-

miles of the renovation area comprised the Record Search Study Area (Study Area). Within this section, 'Project Area' refers to the renovation area and general surrounding area.

Sources of information cited for identifying the presence or potential presence of cultural resources on the Project site include the *Cultural Resources Study for the Sonoma Valley High School Athletic Fields Renovation Project, Sonoma, Sonoma District, California* (ASC 2019), consultations with California Native American tribes traditionally and culturally affiliated with the geographic area of the Project, review of records on file at the California Historical Resources Information System (CHRIS), the NAHC, the Historic Property Directory, National Register of Historic Places (NRHP), and the Northwest Information Center (NWIC). The evaluation included consideration of the renovation area in relation to the eligibility criteria for the California Register and National Register of Historic Places.

The analysis considers direct and indirect impacts on cultural and tribal cultural resources within the Project Area. Potential impacts are assessed by identifying the activities that could affect cultural or tribal cultural resources that have been identified for the purposes of CEQA.

3.4.5 Impacts and Mitigation Measures

Table 3.4-3 (Summary of Impacts – Cultural and Tribal Cultural Resources) provides a summary of potential impacts from the Project.

Table 3.4-3 Summary of Impacts – Cultural and Tribal Cultural Resources

Impact	Project Significance
CTR-1: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	NI
CTR-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	LSM
CTR-3: Would the project disturb any human remains, including those interred outside of formal cemeteries?	LSM
CTR-4: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is 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 that is 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?	LSM
CTR-C-1: Would the project result in a cumulatively considerable contribution to impacts related to cultural or tribal cultural resources?	LSM

Notes: NI = No Impact

LS = Less than Significant

LSM = Less than Significant with Mitigation

3.4.6 Impact Analysis

Impact CTR-1: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

No historical resources were identified within the renovation area during the cultural resources investigation (ASC 2019). Thirteen previously recorded historic-era resources have been identified within a 0.25-mile search radius of the renovation area, including one within the SVHS Campus on the west side of Nathanson Creek.

Although there are thirteen historic-era resources within the Study Area, implementation of the Project would not affect any of the identified historic resources, as they are beyond the Project footprint and would not be altered by the Project. Therefore, **no impact** would occur.

This analysis relates to historic resources of the built environment; refer to Impact CTR-2 below regarding archaeological resources.

Significance *No Impact*

Mitigation No mitigation required.

Impact CTR-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

The records search and literature review did not identify any archaeological resources in the Study Area. Background research indicates a moderate sensitivity for small prehistoric archaeological resources on the surface and a low sensitivity for historic-era archaeological resources on the surface within the Study Area (ASC 2019).

Construction

Construction activities would occur within the confines of the renovation and would include grading, utility trenching, excavation for the base of the lighting poles, and other earthmoving activities that would disturb the existing site. There are no recorded archaeological resources located on or within the immediate vicinity of the Project site. Therefore, construction activities would not disturb a known archaeological resource. However, there is a possibility that unrecognized surficial resources or subsurface archaeological deposits are present within the Project site. Prehistoric resources may be obscured by colluvium, alluvium, vegetation, pavement, or other factors. Thus, the Project's potential construction-related impact on archaeological resources could be **significant**.

Operation

Once construction is completed the operation of the fields would not require extensive ground-disturbing activities that may uncover any unknown archaeological resources. Minor surface disturbance related to landscaping activities would occur, and periodic replacement of the synthetic turf would not require excavation. **No impact** would occur during operation of the Project.

Significance *Significant*

Mitigation**CTR-2: Protect Archaeological Resources during Construction**

If potential archaeological resources are uncovered, the District shall halt work and workers shall avoid altering the materials and their context. Project personnel shall not collect cultural materials. Prehistoric materials might include obsidian and/or chert flaked-stone tools such as projectile points, knives, or scraping implements; the debris from making, sharpening, and using them ("debitage"); culturally darkened soil containing shell, dietary bone, heat-altered rock, and carbonized plant material ("midden"); or stone milling equipment such as mortars, pestles, handstones, or milling slabs. A qualified professional archaeologist shall evaluate the find and provide appropriate recommendations. If the archaeologist determines that the find potentially qualifies as a unique archaeological resource for purposes of CEQA (CEQA Guidelines Section 15064.5[c][3]), all work must remain stopped in the immediate vicinity to allow the archaeologist to evaluate any materials and recommend appropriate treatment. All significant cultural resources recovered shall be, as necessary and at the discretion of the consulting archaeologist, subject to scientific analysis, professional museum curation, and documentation according to current professional standards. In considering any suggested measures proposed by the consulting archaeologist in order to mitigate impacts to historical resources or unique archaeological resources, the District shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, Project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the Project while mitigation for unique archaeological resources is being carried out.

After Mitigation*Less than Significant with Mitigation*

Implementation of Mitigation Measure CTR-2 would minimize the Project's potential construction-related impacts on such resources to less-than-significant levels by requiring the District and its contractors to adhere to appropriate procedures and protocols for minimizing such impacts, in the event that a possible archaeological resource is discovered during construction activities associated with the Project. Therefore, this potential impact on archaeological resources would be **less than significant** with mitigation and compliant with CEQA Statute Sections 21083 and 21084.1 and CEQA Guidelines Section 15064.5(d-f).

Impact CTR-3: Would the project disturb any human remains, including those interred outside of formal cemeteries?

No indication of human burials were identified in record searches performed for the Project (ASC 2019), and consultations with California Native American tribes traditionally and culturally affiliated with the Project Area has not identify the presence of such potential burials on the Project site.

Construction

Although there is no indication of human burials located on-site and the potential for the Project to impact human remains is low, the possibility of encountering human remains cannot be completely discounted. Therefore, the Project's impact

related to the potential disturbance of human remains during construction is considered **significant**.

Operation

As noted under Impact CTR-2, once construction is completed, operation of the fields would not require any ground-disturbing activities of note. Therefore, operation of the Project would not have the potential to encounter previously undiscovered historic or prehistoric human remains. **No impact** would occur.

Significance

Significant

Mitigation

CTR-3: Procedures for Encountering Human Remains during Construction

California Health and Safety Code Section 7050.5 states that it is a misdemeanor to knowingly disturb a human grave. If human remains are encountered, the District shall halt work in the vicinity and notify the District Coroner. At the same time, the District shall retain a qualified archaeologist to evaluate the situation. If human remains are of Native American origin, the Sonoma County Coroner shall notify the Native American Heritage Commission within 24 hours of identification, pursuant to Public Resources Code 5097.98, which would appoint a Most Likely Descendant (MLD). A qualified archaeologist, the District, and the MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of any human remains and associated or un-associated funerary objects (CEQA Guidelines Section 15064.5[d]). The agreement shall take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, and final disposition of the human remains and associated or un-associated funerary objects. The Public Resources Code allows 48 hours to reach agreement on these matters. If the MLD and the other parties could not agree on the reburial method, the District shall follow Section 5097.98(b) of the Public Resources Code, which states that "the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance."

After Mitigation

Less than Significant with Mitigation

Mitigation Measure CTR-3 would be implemented during Project construction, requiring the District to adhere to appropriate excavation, removal, recordation, analysis, custodianship, and final disposition protocols for any buried human remains and associated or un-associated funerary objects that may be accidentally discovered during construction. Therefore, the potential impact on buried human remains would be **less than significant** with mitigation and compliant with Health and Safety Code 7050.5, PRC 5097.98, and CEQA Guidelines Section 15064.5(d).

Impact CTR-4:

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources

Code section 5020.1(k), or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

As mentioned above in Impact CTR-2, the records and literature search found no previously recorded tribal cultural resources within the renovation area (ASC 2019). When contacted, FIGR and Lytton Rancheria indicated that the Study Area is either located within the ancestral territory or that the potential exists for tribal cultural resources to be affected from implementation of the Project. Of the two tribes only FIGR has requested to be notified under AB 52. On August 2, 2019, the District notified FIGR of the Project in writing. As noted above under Existing Setting, discussions with FIGR are ongoing. At this time there are no known tribal cultural resources at the Project site.

Construction

Construction of the Project would result in ground-disturbing activities within the confines of the renovation area. Two tribal representatives have indicated, in general terms, that because the Project site falls within their ancestral territory, there may be cultural resource or tribal cultural resource impacts. Although there is no known tribal cultural resources at the Project site, construction activities have the potential to disturb previously undiscovered tribal cultural resources. If such resources were to represent tribal cultural resources and are determined as being eligible for listing in a local register for historical resources, or are considered significant to a California Native American Tribe, any substantial change to or destruction of these resources would be a **significant** impact.

Operation

No known tribal cultural resources have been brought to the attention of the District. Once renovation and re-orientation of the athletic fields is complete, operation of the fields and athletic activities would resume within nearly the same footprint as the athletic activities occur under existing conditions. In addition, operation of the fields and associated facilities would not require any ground-disturbing activities of note. Therefore, Project operations would not change the general landscape of the renovation area and would not have the potential to encounter previously undiscovered tribal cultural resources. **No impact** would occur.

Significance

Significant

Mitigation

CTR-4: Minimize Impact to Unknown Tribal Cultural Resources

If potential tribal cultural resources are uncovered, the District shall halt work, and workers shall avoid altering the materials and their context. Project personnel shall not collect cultural materials. The District shall notify the Federated Indians of Graton Rancheria (FIGR) and Lytton Rancheria. The District, in coordination with both tribes, shall determine if the resource qualifies as a tribal cultural resource under CEQA. If it does, then all work must remain stopped in the immediate vicinity to allow evaluation of any materials. The District shall ensure that qualified resources are avoided or protected in place, in accordance with the requests of

FIGR and/or Lytton Rancheria, to the extent feasible. Work may proceed on other parts of the Project while mitigation for tribal cultural resources is being carried out.

After Mitigation *Less than Significant with Mitigation*

Implementation of Mitigation Measure CTR-4 would minimize the Project's potential construction-related impacts on such resources to less-than-significant levels by requiring the District and its contractors to adhere to appropriate procedures and protocols for minimizing such impacts, in the event that a possible tribal cultural resource is discovered during construction activities associated with the Project. Therefore, this potential impact on tribal cultural resources would be **less than significant** with mitigation and compliant with CEQA Statute Sections 21074 and 21080.3.2.

3.4.7 Cumulative Impacts

Impact CTR-C-1: Would the project result in a cumulatively considerable contribution to impacts related to cultural or tribal cultural resources?

The geographic boundary for cumulative impacts related to cultural and tribal cultural resources would be the range of the tribe(s) culturally affiliated with the Project site.

Implementation of any project, including those listed in Table 3-1 (Projects Considered for Cumulative Impacts), that may require excavation and grading could potentially affect cultural or tribal resources or human remains, or modify or otherwise impact historic buildings/structures. If these resources are not protected, the cumulative effect of the Project plus cumulative projects could be significant.

However, CEQA requirements for protecting cultural resources, human remains, and tribal cultural resources would be applicable to each of the cumulative projects. Therefore, it is not anticipated that a significant cumulative impact would occur, to which the Project would contribute. In addition, as discussed above, record searches and consultations were undertaken to ensure that cultural resources, human remains, and tribal cultural resources that could be impacted by Project implementation were identified and mitigation measures are included that would reduce impacts to a less-than-significant level. With implementation of the mitigation measures, the Project's contribution to a cumulative impact would be **less than significant**.

Significance *Less than Significant*

Mitigation No mitigation is required.

3.5 Geology, Soils, and Seismicity

This section evaluates potential environmental impacts related to geology and soils during construction and operation of the Project. In addition to the analysis provided in this section, the following subjects are related to geology and soils, but are evaluated in other sections of this EIR:

- Potential hazards from naturally-occurring asbestos in soils are evaluated in Section 3.7 (Hazards and Hazardous Materials)
- Potential impacts to water quality due to erosion, runoff, or alteration of drainage patterns are evaluated in Section 3.8 (Hydrology and Water Quality)

3.5.1 Existing Setting

Regional Geology and Seismic Setting

The Project site is located within the northern Coast Ranges geomorphic province of California. The Coast Ranges geomorphic province is generally characterized by a series of northwesterly trending, structurally controlled, elongated ridges and valleys. The basement rock assemblages with the northern Coast Ranges province are comprised of sedimentary, igneous, and metamorphic rocks of the Jurassic to early Tertiary Periods. East of the San Andreas Fault, the basement rocks consist of three major geologic units that overlap in age; the Great Valley Sequence, the Franciscan Complex, and an ultramafic body composed primarily of serpentinite. Portions of these basement rocks are covered by relatively thin deposits of late Tertiary and Quaternary Period igneous and sedimentary rocks as well as younger alluvium. Alluvial soils, including stream terrace deposits of varying ages, form in-fill deposits within the valleys above the basement rocks and Tertiary-Quaternary formations.

The bedrock formations in the Project vicinity mainly consist of Miocene Sonoma Volcanics and early Pleistocene and Pliocene Huichica Formation. The Sonoma Volcanics consist of igneous rocks, primarily rhyolite, andesite and tuff. The Huichica Formation consists of sedimentary rocks and tuff. According to the Geologic Map of the Sonoma 7.5' Quadrangle, 2006, prepared by the California Geological Survey (CGS), the school site is underlain by continental alluvial deposits of Holocene to early Pleistocene age. According to CDMG Special Report 120, the alluvium at the school site could be as much as 150 feet in thickness. The alluvium is described as alluvial fan, stream terrace, basin, and channel deposits. (Brunsing Associates 2018)

Site Soils and Geologic Conditions

As indicated by published geologic maps, the site is underlain by Holocene to early Pleistocene alluvial deposits. These deposits generally consist of sand, gravel, silt and clay. The planned improvement areas appear to be covered by shallow fill. The fill would have been placed during grading operations for the existing sport fields. The fill appears to be on the order of 6 to 12 inches deep, or more. Fill and near-surface soils consist of very loose to loose silty/clayey sand and soft sandy clay. Most of the surface soils appear to have a low expansion potential (subject to volume changes with change in moisture content).

Liquefaction

Liquefaction results in a loss of shear strength and potential soil volume reduction in saturated sandy, silty, silty/clayey, and also coarse gravelly soils below the groundwater table from earthquake shaking. The occurrence of this phenomenon is dependent on many factors, including the intensity

and duration of ground shaking, the soil age, density, particle size distribution, and position of the groundwater table. Laboratory testing and analysis was conducted to evaluate the liquefaction potential of the soils at the Project site. The results of the analysis indicate the potential for liquefaction at the site during a design earthquake is low to moderate. (Brunsing Associates 2018)

Lateral Spreading

Lateral spreading is generally caused by liquefaction of marginally stable soils underlying gently to steeply-inclined slopes. In these cases, the saturated soils move toward an unsupported face, such as an incised river channel or body of water. The liquefaction analysis determined that the potential for lateral spreading at the Project site is essentially nil. (Brunsing Associates 2018)

Settlement

The analysis to estimate induced vertical settlement due to liquefaction indicate liquefaction induced settlement of 0.21 to 0.33-inches could occur based on results of two geotechnical borings. With proper preparation of building and other structural pads, the maximum post-construction settlement due to foundation loads was estimated to be less than 0.5-inches. Post-construction differential settlement was estimated to be less than 0.25-inches between adjacent footings, along an individual wall footing, or between a footing and adjacent exterior slab. (Brunsing Associates 2018)

Landslides

According to USGS Open File Report 97-745D, the Project site is located within an area of greatest relative stability due to low slope inclination (i.e., Flat Land). No evidence of active landsliding, slumps or debris slides was observed in the site vicinity during a geotechnical site reconnaissance and exploration. The topography of the site is of a sufficiently shallow gradient and no upslope areas of sufficient steepness were identified that could generate a landslide that could reach the school property. (Brunsing Associates 2018)

Faulting and Seismicity

A network of generally northwest-trending strike-slip faults associated with the San Andreas Fault system controls the seismicity and tectonics of the Sonoma County region. The nearest Holocene-active faults are the Hayward-Rodgers Creek Fault, located approximately 4.3 miles southwest of the site and the West Napa Fault, approximately 7.0 miles to the east-northeast. No evidence of active or inactive faulting was observed at the school property during a geotechnical site reconnaissance, and no active faults are shown on, or trending toward the property on published geologic maps. The site is not within a Fault Rupture Hazard Zone as defined by the Alquist-Priolo Earthquake Fault Zoning Act. However, due to the site's proximity to major active faults discussed above, future large magnitude earthquakes are expected to cause strong ground shaking at the site. The most recent significant earthquakes in the immediate area occurred in 1969 and 2014. On August 24, 2014 a moderate shock (Richter Magnitude 6.0) on the West Napa Fault caused damage to structures in the Napa area and minor, localized damage to older structures in the Sonoma Valley. Table 3.5-1 (Active Faults near the Project Area) lists the nearest active faults in the region and the associated maximum moment magnitude (i.e. the measure of an earthquake's size or strength).

Table 3.5-1 Active Faults near the Project Area

Fault	Distance from the Project	Maximum Moment Magnitude
Hayward-Rodgers Creek	4.3 miles	7.3
West Napa	7.0 miles	6.7
Green Valley	14.5 miles	6.8
Maacama- Garberville	18.5 miles	7.4
San Andreas (North Coast South Segment)	24.5 miles	8.0
Hunting Creek-Berryessa	31.2 miles	7.1

Source: Brunsing Associates 2018

Paleontological Setting

Paleontological resources are the fossilized remains of plants and animals, including vertebrates (animals with backbones), invertebrates (e.g., starfish, clams, ammonites and marine coral) and fossils of microscopic plants and animals (microfossils). The age and abundance of fossils depend on the location, topographic setting and particular geologic formation in which they are found. The University of California has a number of highly sensitive Pleistocene era vertebrate finds recorded within Sonoma County. The Project site is situated on ground surface that consists of shallow fill that is underlain by Holocene-Pleistocene alluvium with the presence of a stream in the vicinity of the Project site.

3.5.2 Regulatory Framework

Federal

There are no federal plans, policies, regulations, or laws related to geology and soils applicable to this Project.

State

California Building Code

The California Building Code (CBC), which is codified in CCR Title 24, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, egress facilities, and general building stability. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all building and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. In accordance with this act, the State Geologist established regulatory zones, called “earthquake fault zones,” around the surface traces of active faults and published maps showing these zones. Within these zones, buildings for human occupancy cannot be constructed across the surface trace of active faults. The Project site is not within an Alquist-Priolo Earthquake Fault Zone. Therefore, the provisions of the act do not apply to the Project.

Seismic Hazards Mapping Act

Like the Alquist-Priolo Earthquake Fault Zoning Act, the Seismic Hazards Mapping Act of 1990 (Public Resources Code [PRC] Sections 2690 to 2699.6) is intended to reduce damage resulting from earthquakes. The Seismic Hazards Mapping Act addresses earthquake-related hazards such as strong groundshaking, liquefaction and seismically induced landslides. The State is charged with identifying and mapping areas at risk of strong groundshaking, liquefaction, landslides, and other corollary hazards, with cities and counties required to regulate development within mapped Seismic Hazard Zones. The California Geological Survey has not yet evaluated the Project site or surrounding area under the Seismic Hazards Mapping Act. Therefore, the provisions of the act do not apply to the Project.

California Public Resources Code

Section 5097.5 of the California Public Resources Code (PRC) protects vertebrate paleontological sites located on public land. Under Section 5097.5, no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any vertebrate paleontological site (including fossilized footprints), or any other paleontological feature situated on public lands, except with the express permission of the public agency that has jurisdiction over the lands. Section 30244 of the PRC requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands.

Regional and Local

City of Sonoma General Plan

The *City of Sonoma 2020 General Plan* was consulted as a source of local information, conditions, and context, as well to provide rationale for certain impact determinations where other guidance was found to not exist or lacking. The following goal, policy, and implementation measure from the *City of Sonoma 2020 General Plan* are related to geology and soils and applicable to the Project.

Goal PS-1 Minimize risks to life and property associated with seismic and other geologic hazards, fire, hazardous materials, and flooding.

Policy 1.1 Require development to be designed and constructed in a manner that reduces the potential for damage and injury from natural and human causes to the extent possible.

Implementation Measure 1-1.1 Require development to be designed and constructed in a manner that reduces the potential for damage and injury from natural and human causes to the extent possible.

3.5.3 Evaluation Criteria and Significance Thresholds

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized in Table 3.5-2 (Evaluation Criteria and Significance Thresholds) are used to determine if the Project would have a significant effect related to geology and soils.

Table 3.5-2 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
GEO-1: Risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	Placement of a structure intended for human occupancy within an Alquist-Priolo earthquake fault zone	CEQA Guidelines Appendix G, Checklist Item VII (a.i)
GEO-2: Risk of loss, injury, or death involving strong seismic ground shaking?	Non-compliance with California Building Code	CEQA Guidelines Appendix G, Checklist Item VII (a.ii)
	Non-compliance with recommendations of project-specific geotechnical report	General Plan policy PS-1-1.1 California Building Code (CCR Title 24)
GEO-3: Risk of loss, injury, or death involving seismic related ground failure, including liquefaction?	Located on weak or unstable soils with moderate to high potential for liquefaction	CEQA Guidelines Appendix G, Checklist Item VII (a.iii)
	Non-compliance with recommendations of project-specific geotechnical report	General Plan policy PS-1-1.1
GEO-4: Risk of loss, injury, or death involving landslides?	Placement of structures in area with moderate to high slope inclination potential	CEQA Guidelines Appendix G, Checklist Item VII (a.iv)
	Non-compliance with recommendations of project-specific geotechnical report	
GEO-5: Result in substantial soil erosion or the loss of topsoil?	Non-compliance with applicable erosion and sediment control measures in Sonoma's NPDES stormwater discharge permit	CEQA Guidelines Appendix G, Checklist Item VII (b)
GEO-6: Be located on a geologic unit or soil that is unstable or expansive, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Placement of structures on weak or unstable soils with moderate to high potential for liquefaction, lateral spreading, settlement, or expansion	CEQA Guidelines Appendix G, Checklist Item VII (c) (d)
	Non-compliance with recommendations of project-specific geotechnical report	General Plan policy PS-1-1.1 California Building Code (CCR Title 24)
GEO-7: Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	Installation of septic systems or waste water disposal systems in unsuitable soils	CEQA Guidelines Appendix G, Checklist Item VII (e)
GEO-8: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Disturbance of a known fossil locality or located within a geologic unit that has high paleontological sensitivity.	CEQA Guidelines Appendix G, Checklist Item VII (f)

3.5.4 Approach to Analysis

A Geotechnical Investigation and Geologic Hazard Evaluation for the Project site was completed by Brunsing Associates on October 17, 2018 (see Appendix E). The findings of the geotechnical study are utilized to evaluate the seismic and geologic hazards that may affect the proposed Project.

3.5.5 Impacts and Mitigation Measures

Table 3.5-3 (Summary of Impacts – Geology and Soils) provides a summary of potential impacts from the Project.

Table 3.5-3 Summary of Impacts – Geology, Soils and Seismicity

Impact	Project Significance
GEO-1: Risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	LS
GEO-2: Risk of loss, injury, or death involving strong seismic ground shaking?	LS
GEO-3: Risk of loss, injury, or death involving seismic related ground failure, including liquefaction?	LS
GEO-4: Risk of loss, injury, or death involving landslides?	NI
GEO-5: Result in substantial soil erosion or the loss of topsoil?	LS
GEO-6: Be located on a geologic unit or soil that is unstable or expansive, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	LS
GEO-7: Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	NI
GEO-8: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	LSM
GEO-C-1: Would the project result in a cumulatively considerable contribution to a significant cumulative impact related to geology and soils?	LS

Notes: NI = No Impact

LS = Less than Significant

LSM = Less than Significant with Mitigation

Impact GEO-1: Risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

The Project site is not located within an Alquist-Priolo earthquake fault zone. The nearest such fault zone is located approximately 4.3 miles southwest of the Project site. A northwest-trending, Pre-Quaternary fault (older than 1.6 million years) is shown concealed by alluvium crossing the northeast corner of the school campus on the Fault Activity Map of California (Jennings and Bryant 2010). Since the alluvium is as much as 150 feet in thickness and no geomorphic evidence of faulting was observed at the site, the presence of this older fault is doubtful and the likelihood of surface rupture occurring at the Project site is considered to be low. Therefore, the risk of loss, injury or death involving fault rupture would be **less than significant**.

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact GEO-2: Risk of loss, injury, or death involving strong seismic ground shaking?

The Project is located in an area that would be subject to moderate to strong ground shaking in the event of a major earthquake on the Hayward-Rodgers Creek or West Napa faults. Other principal faults capable of producing ground shaking at the Project site include the Green Valley, Maacama-Garberville, San Andreas, and Hunting Creek-Berryessa faults.

In general, the intensity of ground shaking at the site will depend on the distance to the causative earthquake epicenter, the magnitude of the shock, and the response characteristics of the underlying earth materials. Typically, structures founded in firm soil materials, and designed in accordance with current building codes, are well suited to resist the effects of ground shaking. Horizontal peak ground acceleration values were calculated for ground motions having a 10-percent chance of exceedance in 50 years. The calculated horizontal peak ground acceleration for the site-specific evaluation is 0.525g.

As summarized in EIR Section 2.8 (Project Minimization and Avoidance Measures), implementation of Project Design Feature 4 (Implement Recommendations from Geotechnical Report) is included as part of the Project. Project Design Feature 4 requires the Project to be designed and constructed in conformance with site-specific recommendations contained in a geotechnical study completed for the Project and any subsequent related geotechnical reports, if prepared. This includes design and construction of structures to resist the effects of strong ground shaking (on the order of Modified Mercalli Intensity IX) in accordance with applicable seismic design parameters in the California Building Code. Because the Project would be constructed in accordance with the California Building Code and with project-specific recommendations contained in a design-level geotechnical study, the potential impact related to strong seismic ground shaking would be **less than significant**.

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact GEO-3: Risk of loss, injury, or death involving seismic related ground failure, including liquefaction?

Laboratory testing and analysis was conducted to evaluate the liquefaction potential of the soils at the Project site. The results of the analysis indicate the potential for liquefaction at the site during a design earthquake is low to moderate.

As summarized in EIR Section 2.8 (Project Minimization and Avoidance Measures), implementation of Project Design Feature 4 (Implement Recommendations from Geotechnical Report) is included as part of the Project. Project Design Feature 4 requires the Project to be designed and constructed in conformance with site-specific recommendations contained in a geotechnical study completed for the Project and any subsequent related geotechnical reports, if prepared. This would include design in accordance with recommendations for grading and foundation support and the use of select engineered fill to address liquefiable soils. Because the Project would be constructed in accordance with

project-specific recommendations contained in a design-level geotechnical study, the potential impact related to seismic-related ground failure, including liquefaction, would be **less than significant**.

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact GEO-4: Risk of loss, injury, or death involving landslides?

Published landslide maps do not indicate large-scale slope instability at the Project site. Additionally, no active landslides were observed at the Project site during completion of a site-specific geotechnical investigation, and no upslope areas of sufficient steepness were identified that could generate a landslide that could reach the school property (Brunsing Associates 2018). Therefore, **no impact** would occur related to landslides.

Significance *No Impact*

Mitigation No mitigation is required.

Impact GEO-5: Result in substantial soil erosion or the loss of topsoil?

Construction

During construction, areas to be graded would be cleared of existing vegetation and surface soils containing organic matter would be stripped to approximately 4 to 6 inches (deeper stripping and grubbing may be required to remove isolated concentrations of organic matter or roots). The removed topsoil would either be removed from the site, or if suitable, stockpiled for re-use as topsoil in landscaped areas or low areas needing to be raised/leveled.

As summarized in EIR Section 2.8 (Project Minimization and Avoidance Measures), implementation of Project Design Feature 2 (Stormwater Pollution Prevention Plan) is included as part of the Project. Project Design Feature 2 requires the Project to include development and implementation of a Storm Water Pollution Prevention Plan that would comply with applicable erosion and sediment control measures contained in the City of Sonoma municipal storm water permit and the State Water Board's Construction General Permit. Both the City and State permits require the implementation of erosion control measures in order to prevent soil erosion and the resulting sedimentation or other pollution of nearby bodies of water. Because the Project would preserve topsoil on site, if suitable, and would implement applicable erosion and sediment control measures during construction, the potential impact related to soil erosion or the loss of topsoil would be **less than significant**.

Operation

Following construction of the renovated fields and associated facilities, exposed and disturbed areas would be restored and none of the operational activities would involve disturbing the soil. During turf replacement, the base rock is left in place. Therefore, **no impact** to soils would occur during operation.

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact GEO-6: Be located on a geologic unit or soil that is unstable or expansive, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

The geotechnical investigation performed for the Project identified the existence of shallow fill in the proposed improvement areas on the order of 6 to 12 inches deep, or more. The shallow fill is underlain by Holocene to early Pleistocene alluvial deposits. Most of the surface soils appear to have a low expansion potential (subject to volume changes with change in moisture content). Laboratory testing and analysis was conducted to evaluate the liquefaction potential of the soils at the Project site. The results of the analysis indicate the potential for liquefaction at the site during a design earthquake is low to moderate. Based on the presence of moderate liquefiable soils at within certain portions of the Project site, the geotechnical study further evaluated the potential for lateral spreading and settlement to occur. The analysis determined that the potential for lateral spreading at the Project site is negligible (Brunsing Associates, 2018). The analysis to estimate induced vertical settlement due to liquefaction indicates liquefaction induced settlement of 0.21 to 0.33-inches could occur.

As summarized in EIR Section 2.8 (Project Minimization and Avoidance Measures), implementation of Project Design Feature 4 (Implement Recommendations from Geotechnical Report) is included as part of the Project. Project Design Feature 4 requires the Project to be designed and constructed in conformance with site-specific recommendations contained in a geotechnical study completed for the Project and any subsequent related geotechnical reports, if prepared. This would include design in accordance with recommendations for grading and foundation support and the use of select engineered fill to address weak near-surface and liquefiable soils. This would include the supporting of field light structures on drilled cast-in-place concrete piers extending into suitable supporting soils. Because the Project would be constructed in accordance with project-specific recommendations contained in a design-level geotechnical study, the potential impact related to unstable soils would be **less than significant**.

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact GEO-7: Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The Project would not involve the construction or use of septic systems or an alternative wastewater disposal system. **No impact** would result.

Significance *No Impact*

Mitigation No mitigation is required.

Impact GEO-8: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Soil types within the Project area include shallow fills underlain by Holocene to early Pleistocene alluvial deposits. The University of California has a number of

highly sensitive Pleistocene era vertebrate finds recorded within Sonoma County. Deposit frequency of paleontological resources within Pleistocene alluvium is generally unpredictable, therefore making it difficult to determine the potential for sensitive paleontological resources to be found during the construction activities. Therefore, although it may be unlikely that Project construction would impact paleontological resources given the previously graded and disturbed nature of the site, the potential exists for encountering previously undiscovered resources during Project construction of deeper excavations. This is considered a **significant** impact.

Significance *Significant*

Mitigation GEO-1: Protect Paleontological Resources during Construction Activities

In the event that fossils are encountered during construction (i.e., bones, teeth, or unusually abundant and well-preserved invertebrates or plants), construction activities shall be diverted away from the discovery within 50 feet of the find, and a professional paleontologist shall be notified to document the discovery as needed, to evaluate the potential resource, and to assess the nature and importance of the find. Based on the scientific value or uniqueness of the find, the paleontologist may record the find and allow work to continue, or recommend salvage and recovery of the material, if it is determined that the find cannot be avoided. The paleontologist shall make recommendations for any necessary treatment that is consistent with currently accepted scientific practices. Any fossils collected from the area shall then be deposited in an accredited and permanent scientific institution where they will be properly curated and preserved.

After Mitigation *Less than Significant with Mitigation*

Mitigation measure GEO-1 provides the construction contractor with the resources to identify and evaluate all potential paleontological resources that may be encountered during construction to prevent their direct or indirect destruction. Therefore, with mitigation, the Project would result in a **less than significant** impact on such resources.

3.5.6 Cumulative Impacts

Impact GEO-C-1: Would the project result in a cumulatively considerable contribution to a significant cumulative impact related to geology and soils?

The nature of geologic impacts is site-specific. Therefore, geologic hazards do not accumulate as impacts on resources do, as indicated in other sections of this EIR. With compliance with State and local regulations and policies, construction would be consistent with current building standards for seismic and geologic hazards. Therefore, the Project would not contribute to a cumulative impact.

Implementation of cumulative projects within the City of Sonoma may require grading and excavation that could potentially affect paleontological resources. If these resources are not protected, the cumulative effect of these projects would contribute to the continued loss of such resources. CEQA requirements for protecting paleontological resources are applicable to development throughout the City and State. As described above, a mitigation measure is provided for the

Project that would reduce impacts on paleontological resources to a less-than-significant level. With implementation of the mitigation measure, the Project contribution to a cumulative impact would not be cumulatively considerable, and therefore **less than significant**.

Significance	<i>Less than Significant</i>
Mitigation	No mitigation is required.

3.6 Greenhouse Gas Emissions and Energy

This section evaluates potential environmental impacts related to greenhouse gas (GHG) emissions and energy during construction and operation of the Project. In addition to the analysis provided in this section, the following subjects are related to GHG impacts, but are evaluated in other sections of this EIR:

- Potential impacts to air quality are addressed in Section 3.2 (Air Quality).

3.6.1 Existing Setting

Greenhouse Gas Emissions

Gases that trap heat in the atmosphere are referred to as GHGs because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse. The accumulation of GHG has been implicated as the driving force for global climate change. The primary GHG are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone (O₃), and water vapor (H₂O).

While GHGs in the atmosphere are naturally occurring, the emission rate of CO₂, CH₄ and N₂O has been accelerated by human activities. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing associated with such activities as agricultural practices and landfills. Other GHGs include hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride, which are generated during certain industrial processes. GHGs are typically reported in “carbon-dioxide-equivalent” measures (CO₂e) as each GHG has a different global warming potential.

Potential climate change impacts in California may include, but are not limited to, a decrease in snowpack; sea level rise; and a greater number of extreme heat days per year, high ozone days, large forest fires, and drought years. Secondary effects are likely to include impacts on agriculture, changes in disease vectors, and changes in habitat and biodiversity (ARB 2014).

The Environmental Protection Agency (EPA) reports U.S. GHG emissions for 2017 as 6,456.7 million metric tons of CO₂e (MMT CO₂e). The transportation sector accounted for approximately 29 percent of national GHG emissions, followed by the electricity production sector at approximately 28 percent and the industrial sector at approximately 22 percent. Commercial and residential fuel use and the agricultural sector accounted for the remaining 21 percent (U.S. EPA 2017).

The California Air Resources Board (ARB) estimated that in 2017 California produced about 424 MMT CO₂e. The transportation sector was the highest source at 41 percent of the State's total GHGs, followed by the industrial sector at 24 percent, and electricity generation (both in-state and out-of-state) at 9 percent. Commercial and residential fuel use, recycling and waste, high global warming potential, and agricultural sectors accounted for the remaining 26 percent of the State's total GHG emissions (ARB 2017).

Energy

City of Sonoma is a Community Choice Aggregation community. Consumers can choose either to purchase their electrical energy from PG&E or Sonoma Clean Power.

The Pacific Gas and Electric Company (PG&E) delivers electricity and provides natural gas service to the Project site. PG&E is regulated by the California Public Utilities Commission and purchases both gas and electrical power from a variety of sources, including other utility companies.

Sonoma Clean Power is a not-for-profit public agency operated by the Cities of Cloverdale, Cotati, Fort Bragg, Petaluma, Point Arena, Rohnert Park, Santa Rosa, Sebastopol, Sonoma, Willits and the Town of Windsor, and the Counties of Sonoma and Mendocino. SVUSD subscribes to Sonoma Clean Power.

3.6.2 Regulatory Framework

Federal

Greenhouse Gas Emissions

The U.S. Environmental Protection Agency (EPA) is the federal agency responsible for implementing the Clean Air Act (CAA). The U.S. Supreme Court ruled on April 2, 2007, that carbon dioxide is an air pollutant as defined under the CAA, and that EPA has the authority to regulate emissions of (GHGs). In response to the mounting issue of climate change, EPA has taken actions to regulate, monitor, and potentially reduce GHG emissions. Actions include a national program to reduce GHG emissions and improve fuel economy for all new cars and trucks sold in the United States. However, there are no federal plans, policies, regulations, or laws related to GHGs that are directly applicable to the Project.

Energy

There are no federal regulations that apply to the Project related to energy resources in Sonoma County, or there are more stringent State regulations making the federal regulation moot (e.g.: Energy Policy and Conservation Act standards for light-duty vehicles).

State

Greenhouse Gas Emissions

Executive Order S-3-05

In 2005, the Governor of California signed Executive Order S-3-05, which established greenhouse gas emission reduction targets to reduce emissions to 2000 levels by 2010, to reduce emissions to 1990 levels by 2020, and to reduce emissions to 80 percent below 1990 levels by 2050. The Secretary of the California Environmental Protection Agency (Secretary) was designated to coordinate oversight of the efforts made to meet the targets with the Business, Transportation and Housing Agency, the Department of Food and Agriculture, the Resources Agency, the Air Resources Board, the Energy Commission, and the Public Utilities Commission. The Secretary reports to the Governor and State Legislature biannually on the impacts to California from global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The most recent report, *Safeguarding California: Reducing Climate Risk* was approved in July 2014 (Natural Resource Agency 2014).

Executive Order B-30-15

On April 29, 2015, California Governor Jerry Brown announced E.O. B-30-15, which contains the following GHG emissions target:

- By 2030, California shall reduce GHG emissions to 40 percent below 1990 levels

The emission reduction target of 40 percent below 1990 levels by 2030 is an interim-year goal to provide substantial progress toward the ultimate goal of reducing emissions by 80 percent below 1990 levels by 2050.

Assembly Bill 32, California Global Warming Solutions Act of 2006

In 2006, the Governor of California signed the Global Warming Solutions Act of 2006 (Assembly Bill 32), committing the State of California to reducing GHG emissions to 1990 levels by 2020. The statute requires the ARB to track emissions through mandatory reporting, determine the 1990 emission levels, set annual emissions limits that will result in meeting the 2020 target, and design and implement regulations and other feasible and cost effective measures to ensure that statewide GHG emissions will be reduced to 1990 levels by 2020. In December 2007, the ARB approved the 2020 emissions limit at 427 MMT CO₂e. The Intergovernmental Panel on Climate Change (IPCC), which assesses scientific, technical, and socioeconomic information relevant to the understanding of climate change, has since revised the global warming potential of GHGs. Therefore, ARB recalculated the 2020 emissions limit as 431 MMT CO₂e. Projected business-as-usual emissions for 2020 are 509 MMT CO₂e. A reduction of 78 MMT CO₂e is needed to meet the goal (ARB 2012).

Climate Change Scoping Plan

In December 2008, pursuant to AB 32, the ARB adopted the Climate Change Scoping Plan (Scoping Plan), which outlined measures to attain the 2020 GHG emissions limit. The Scoping Plan estimated that implementation of identified measures would result in a reduction of 105.3 MMT CO₂e from various sectors including transportation, energy, forestry, and high global warming potential gas sectors (originally reported as 174 MMT CO₂e, but updated to 105.3 MMT CO₂e in the Status of Scoping Plan Recommended Measures [found at the ARB website]). This is 24 percent more than is needed to meet the 2020 mandate.

The CARB has updated the Scoping Plan twice, approving the First Update to the Climate Change Scoping Plan (Updated Scoping Plan) in May 2014, and the 2017 Scoping Plan in December 2017.

The 2017 Scoping Plan identifies progress made to meet the near-term (2020) objectives of AB 32 and defines California's climate change priorities and activities for the next several years (ARB 2017). The 2017 Scoping Plan identifies the 2020 emissions limit as 431 MMT CO₂e and the 2020 business-as-usual forecast as 509 MMT CO₂e. The 2017 Climate Change Scoping Plan provides strategies for meeting the mid-term 2030 greenhouse gas reduction target set by SB 32. The plan also identifies how the State can substantially advance toward the 2050 greenhouse gas reduction target of Executive Order S-3-05, which consists of reducing greenhouse gas emissions to 80 percent below 1990 levels. The recommendations cover the key sectors, including: energy and industry; transportation; natural and working lands; waste management; and water. The recommended measures in the 2017 Scoping Plan are broad policy and regulatory initiatives that will be implemented at the State level and do not relate to the construction and operation of individual projects.

The initial Scoping Plan recommended that local governments achieve a 15-percent reduction below 2005 levels by 2020, which aligns with the State's goal of not exceeding 1990 emissions levels by 2020. However, the 2017 Scoping Plan does not contain a recommended reduction level or percent for local government's municipal operations.

California Building Code, Title 24

Title 24 of the CCR regulates how each new home and business is built or altered in California. It includes requirements for the structural, plumbing, electrical, and mechanical systems of buildings, and for fire and life safety, energy conservation, green design, and accessibility in and about buildings. Two sections of Title 24 – Part 6, the California Energy Code, and Part 11, the California Green Building Standards Code or CalGreen Code – contain standards that address GHG emissions related to construction.

The California Green Building Standards Code, or CalGreen, became a mandatory code beginning January 1, 2011. The code takes a holistic approach to green building by including minimum requirements in the areas of planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. The CalGreen code has minimum mandatory standards and two additional tiers of voluntary measures intended to achieve greater levels of efficiency that result in lower levels of GHG emissions. Local governments must enforce the minimum standards and can choose to adopt either Tier 1 or Tier 2 standards to achieve greater positive environmental impacts.

Energy

State of California Energy Action Plan

In 2003, the three key energy agencies in California— the California Energy Commission (CEC), the California Power Authority (CPA), and the California Public Utilities Commission (CPUC)— jointly adopted an Energy Action Plan (EAP) that listed goals for California's energy future and set forth a commitment to achieve these goals through specific actions. In 2005, the CPUC and the CEC jointly prepared the EAP II to identify the further actions necessary to meet California's future energy needs. To the extent that efficiency, demand response, renewable resources, and distributed generation are unable to satisfy increasing energy and capacity needs, the EAP II supports the use of clean and efficient fossil-fired generation. The plan recognizes that concurrent improvements are required to the bulk electricity transmission grid and distribution facility infrastructure to support growing demand centers and the interconnection of new generation, both on the utility and customer side of the meter.

Renewable Portfolio Standards

Originally established in 2002, the California Renewable Portfolio Standard (RPS) program required that 20% of electricity retails sales be served by renewable resources by 2017. In subsequent years, the bill would require publically owned utilities (POUs), investor-owned utilities, electric service providers, and community choice aggregators to increase the percent of renewable energy resources to 33% by 2020.

As of January 1, 2019, SB 100 increased the RPS to 60% by 2030 as the most ambitious renewable energy standards in the country. Additionally, the law requires all of California's electricity come from carbon-free resources by 2045. The California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) are jointly responsible for implementing the RPS program (State of California 2019).

Regional and Local

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) publishes CEQA Air Quality Guidelines to assist local jurisdictions and lead agencies in complying with the requirements of CEQA regarding potentially adverse impacts to air quality. These CEQA Guidelines were updated in June 2010 to include new thresholds of significance (2010 Thresholds) adopted by the BAAQMD Governing Board. The BAAQMD's Guidelines were further updated in May 2017 to address the California Supreme Court's 2015 opinion in *California Building Industry Association vs. Bay Area Air Quality Management District*, 62 Cal.4th 369.

The BAAQMD Air Quality CEQA Guidelines provide screening criteria for land use based projects to determine whether a project can be assumed to have a less than significant impact on greenhouse gas emissions based on its size. If a project exceeds the screening criteria, then thresholds of significance are provided for determining impacts. The guidelines do not provide construction thresholds of significance for GHG emissions, but encourage a Lead Agency to quantify and disclose GHG emissions that could occur during construction. The District does not, itself, have a "qualified" Climate Action Plan or other qualified greenhouse gas reduction strategy.

Climate Change Action Resolution for Sonoma County

Adopted by the Sonoma County Board of Supervisors in May of 2018, the Climate Change Action Resolution establishes a framework for reducing greenhouse gas emissions county-wide. The plan aims to achieve the Regional Climate Protection Authority's (RCPA) countywide target of greenhouse gas reductions by 40% below 1990 levels by 2030 and 80% below 1990 levels by 2050. The City of Sonoma is a member agency of the RCPA and adopted the RCPA's Climate Action 2020 measures in 2016.

Sonoma Clean Power

Sonoma Clean Power (SCP) formed in 2012 when the Sonoma County Board of Supervisors adopted a Joint Powers agreement between the Sonoma County Water Agency and the County of Sonoma. The agency is operated by the Cities of Cloverdale, Cotati, Fort Bragg, Petaluma, Point Arena, Rohnert Park, Santa Rosa, Sebastopol, Sonoma, Willits, and the Town of Windsor. The City of Sonoma joined SCP in 2013, allowing consumers the option to use Sonoma Clean Power rather than PG&E. SCP provides a number of clean energy service plans including the 91% carbon-free CleanStart plan, which sources 49% of energy from renewables, 42% from hydroelectric power, and 9% from general system power. Another option for customers is the EverGreen plan, which offers 100% locally-produced, renewable electricity. Renewable energy sourced by Sonoma Clean Power include wind, solar, geothermal, biomass and biowaste. As noted earlier, SVHS subscribes to Sonoma Clean Power for the campus' electrical use.

District Facilities Master Plan

As part of the Facilities Master Plan for Sonoma Valley High School, green technology improvements is one of the four prioritized improvement categories to be implemented at the Campus. Green technology describes the work that falls under the funding of Measure H and are intended to reduce the campus consumption of natural resources while improving the learning environment for its users. Some of the improvements proposed for SVHS include lighting upgrades, installation of cool roofs, and water reduction measures in bathrooms.

City of Sonoma General Plan

The *City of Sonoma 2020 General Plan* was consulted as a source of local information, conditions, and context, as well as to provide rationale for certain impact determinations where other guidance was found to not exist or lacking.

The following goals and policies from the *City of Sonoma 2020 General Plan* are generally related to energy and applicable to the Project.

Goal ER-3 Conserve natural resources to ensure their long-term sustainability.

Policy 3.2 Encourage construction, building maintenance, landscaping, and transportation practices that promote energy and water conservation and reduce greenhouse gas emissions.

3.6.3 Evaluation Criteria and Significance Thresholds

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized in Table 3.6-1 (Evaluation Criteria and Significance Thresholds) are used to determine if the Project would have a significant effect related to GHG emissions and energy use.

Table 3.6-1 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
GHG-1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Project size greater than 600 acres	CEQA Guidelines Appendix G, Checklist Item VIII (a) BAAQMD 2017 CEQA Guidelines
GHG-2: Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Conflict with the 2017 Climate Change Scoping Plan	CEQA Guidelines Appendix G, Checklist Item VIII (b) 2017 Climate Change Scoping Plan
ENG-1: Would the project result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	Result in environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources	CEQA Guidelines Appendix G, Checklist Item VI (a)
ENG-2: Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	Conflict with adopted goals and measures for energy efficiency	CEQA Guidelines Appendix G, Checklist Item VI (b) City of Sonoma General Plan Policy 3.2.

3.6.4 Approach to Analysis

The greenhouse gas analysis of operation-related greenhouse gas emissions utilizes the BAAQMD screening level sizes as well as a qualitative approach. Because the renovations focus on the athletic fields, the Land Use Type of “City Park” is used. The Land Use Type of “High School” would not be appropriate as it is based on building square footage and assumes classrooms and associated

facilities are being constructed. Screening criteria provides a conservative indication of whether the proposed project could result in significant greenhouse gas impacts during operations. If a project is below the screening, it is assumed to have a less than significant impact, with no further modeling required. The operational screening criteria for a City Park is 600 acres.

The Project's construction GHG emissions were estimated with the California Emissions Estimator Model (CalEEMod) version 2016.3.2. CalEEMod output is provided in Appendix C. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with construction and operation from a variety of land uses. As the BAAQMD Guidelines do not have construction thresholds, emissions from construction are disclosed for information purposes.

CalEEMod model defaults were used to estimate the construction activity, with activity duration defined below. CalEEMod default phase durations and equipment activity assumptions are informed by extensive surveys of the construction industry in California; the model adjusts the construction activity based on the land use type and amounts input into the model. Project-specific model inputs for construction include:

- Construction to begin in 2020 and last 14 months
- Construction of renovated fields totaling 16.8 acres
- Import of 6,400 tons of drainage gravel for the new track & field
- Demolition and export of 578 tons of pavement and hardscape

The GHG analysis also discusses greenhouse gas emissions and consistency with the goals of the State of California's *2017 Climate Change Scoping Plan*. If the Project meets the criteria laid out in applicable greenhouse gas emissions plans, policies, and regulations, then its impact for that category may be considered less than significant.

Impacts to energy resources were evaluated as to whether or not the Project would result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of existing energy resources. The Project was evaluated for consistency or conflict with State energy efficiency goals.

3.6.5 Impacts and Mitigation Measures

Table 3.6-2 (Summary of Impacts – Greenhouse Gas and Energy) provides a summary of potential impacts from the Project.

Table 3.6-2 Summary of Impacts – Greenhouse Gas and Energy

Impact	Project Significance
GHG-1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	LS
GHG-2: Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	NI
ENG-1: Would the project result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	LS
ENG-2: Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	NI
GHG-C-1: Would the project result in a cumulatively considerable contribution to a significant cumulative impact relative to greenhouse gas emissions?	LS
ENG-C-1: Would the project result in a cumulatively considerable contribution to a significant cumulative impact relative to energy?	LS

Notes: NI = No Impact

LS = Less than Significant

LSM = Less than Significant with Mitigation

Impact GHG-1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction

Overall, Project construction activities would result in a temporary increase in greenhouse gas emissions, including exhaust emissions from on-road haul trucks, worker commute vehicles, and off-road heavy duty equipment. Using CalEEMod version 2016.3.2, construction emissions are estimated to be approximately 516 MTCO₂e from all construction activities in the year 2020 and approximately 494 MTCO₂e in the year 2021. Project emissions during construction would not result in a significant greenhouse gas impact, given that construction would be temporary, off short duration, and would not require a large fleet of earthmoving equipment and soil off hauling. The impact of construction greenhouse gas emissions, therefore, would be **less than significant**.

Operation

As described in the approach to analysis, the 2017 BAAQMD CEQA Guidelines has established land-use based screening criteria for operational-related GHG emissions. The BAAQMD operational greenhouse gas screening criteria is 600 acres for a City Park. At an estimated footprint of approximately 16.8 acres, the Project would be substantially less than the BAAQMD's operational greenhouse gas screening criteria for a city park.

In addition, it is noted the events that would occur on campus as a result of the Project, are not new events but relocated events. Currently students are bused a distance 1.2 miles one-way, to Arnold Field and Field of Dreams, to attend practices and games for football. With implementation of the Project, most practices would occur immediately after school on-site, thus eliminating the need for transportation to an off-site facility. Net mobile emissions are not anticipated to

increase as a result of the transfer of events from Arnold Field and Field of Dreams to SVHS.

The impact to greenhouse gas emissions would be **less than significant**.

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact GHG-2: Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The Project site is not subject to a “qualified” Climate Action Plan or other qualified greenhouse gas reduction strategy.

The recommended next steps in the 2017 Climate Change Scoping Plan are broad policy and regulatory initiatives that would be implemented at the State level and do not relate to the construction and operation of smaller individual projects such as the proposed Project. Although Project construction may be affected by some of the State level regulations and policies that will be implemented, such as the Phase 2 heavy-duty truck greenhouse gas standards proposed to be implemented within the transportation sector, the Project would not impede the State from developing or implementing the greenhouse gas reduction measures identified in the Scoping Plan. Therefore, the Project would not conflict with AB 32 or the 2017 Climate Change Scoping Plan. **No impact** would occur.

Significance *No Impact*

Mitigation No mitigation is required.

Impact ENG-1: Would the project result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Construction

Temporary energy use in connection with Project construction would entail consumption of diesel fuel and gasoline by construction equipment and by the transportation of earth moving equipment, construction materials, supplies, and construction personnel. In accordance with Project Design Feature 1 (Air Quality Control Measures during Construction), construction equipment would be maintained and properly tuned according to manufacturer’s specifications and idling times would be minimized. In addition, the use of diesel construction equipment meeting current California Air Resources Board (ARB) certification standards for off-road heavy-duty diesel engines would be maximized. With these design features in place, wasteful, inefficient, or unnecessary use of energy resources is not anticipated during Project construction. Impacts during construction would be **less than significant**.

Operation

The lighting energy demands associated with operations at Arnold Field and Field of Dreams for a SVHS event would be redistributed to the renovated athletic fields. In addition, the lights at Arnold Field have a mix of older less energy efficient fixtures with newer more energy efficient LED fixtures. All of the new lighting would

be energy efficient LED fixtures with a minimal load of 31.28 kW. Over the course of a school year, the lights are anticipated to use approximately 5,000 kWh of electricity. In addition to the lights, ancillary energy use would occur at the concession stand and bathrooms.

In 2012 the District installed a 988 kilowatt photovoltaic system at the SVHS Campus, which produced approximately 1,443,854 kilowatt hours. The photovoltaic system is anticipated to cover the negligible increase in electricity from Project operation.

As noted under Impact GHG-1, a reduction in vehicle travel, and therefore gasoline and diesel use, to Arnold Field and Field of Dreams for practices and games would occur with implementation of the Project.

In summary, the Project would not use energy in an inefficient manner, is expected to reduce energy from mobile sources, and energy use from the Project would be off-set by the existing photovoltaic system. There would be **no impact** associated with wasteful, inefficient, or unnecessary consumption of energy resources from operation of the Project.

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact ENG-2: Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

There are no local plans for renewable energy that would apply to the Project site. Implementation of the Project would not obstruct a state plan for renewable energy. The buildings that would be constructed as part of the Project would follow Title 24 standards where applicable. The Campus subscribes to Sonoma Clean Power which is 91-100% percent renewable, exceeding the State Renewable Portfolio Standards. In addition, the campus has a 988 kilowatt photovoltaic system, thus supporting the State's goal of using 100% clean electric power by 2045. There would be no conflict with a State or local plan for renewable energy, and therefore **no impact** would occur.

Significance *No Impact*

Mitigation No mitigation is required.

3.6.6 Cumulative Impacts

Impact GHG-C-1: Would the project result in a cumulatively considerable contribution to a significant cumulative impact relative to greenhouse gas emissions?

Greenhouse gas impacts are global and cumulative in nature. The Project's cumulative contribution has been analyzed under Impact GHG-1 and found to be **less than significant**. The Project would therefore not make a cumulatively considerable contribution to the cumulative impact of greenhouse gas emissions.

Significance *Less than Cumulatively Considerable (Less than Significant)*

Mitigation No mitigation is required.

Impact ENG-C-1: Would the project result in a cumulatively considerable contribution to a significant cumulative impact relative to energy?

The geographic scope of potential cumulative impacts related to energy resources consists of the State of California.

As described in Impact ENG-1, the Project would have a less-than-significant impact relating to inefficient, wasteful, or unnecessary consumption of fuels or other energy resources during construction. Cumulative projects identified in Table 3-1 (Projects Considered for Cumulative Impacts) would also require the consumption of fuels and other energy resources during construction. However, each of the cumulative projects would be required to comply with existing and future laws and regulations governing energy use, similar to the Project. For this reason, the Project would not make a cumulative considerable contribution to a cumulative impact from construction related energy use.

Project operation was found to have no impact to energy use. Therefore, it cannot make a cumulative contribution to a cumulative impact, particularly considering the high percentage of renewable sources of energy supplied by SVUSD's power providers.

Significance *Less than Cumulatively Considerable (Less than Significant)*

Mitigation No mitigation is required.

3.7 Hazards and Hazardous Materials

This section evaluates potential environmental impacts related to hazards and hazardous materials during construction and operation of the Project. In addition to the analysis provided in this section, the following subjects are related to hazards and hazardous materials, but are evaluated in other sections of this EIR:

- Potential impacts to sensitive receptors from vehicle emissions are evaluated in Section 3.2 (Air Quality).
- Potential impacts to emergency access are evaluated in Section 3.12 (Transportation).

3.7.1 Existing Setting

Summary of Hazardous Materials

Hazardous materials are a wide-ranging category of substances that include toxic substances, flammable or explosive materials, corrosive substances such as acids, and radioactive substances. A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, State, or local agency, or if it has characteristics defined as hazardous by such an agency. Facts that influence the health effects of exposure to hazardous material include the dose to which the person is exposed, the frequency of the exposure, the exposure pathway, and individual susceptibility.

The California Code of Regulations (CCR) defines a hazardous material as a substance that, because of physical or chemical properties, quantity, concentration, or other characteristics, may either: (1) cause an increase in mortality or an increase in serious, irreversible, or incapacitating, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of, or otherwise managed (CCR, Title 22, Division 4.5, Chapter 10, Article 2, Section 66260.10). Hazardous wastes refer to hazardous materials that are no longer used and have been disposed of or are awaiting disposal.

Emergencies involving hazardous materials often occur due to mechanical failure or human error. These types of emergencies also sometimes occur as a secondary impact of another emergency, such as an earthquake, flood, or fire. Hazardous material releases can occur from buildings such as factories and processing facilities, as well as from vehicles that transport chemicals or other hazardous substances. Road vehicles, trains, and (more rarely) aircraft can all suffer accidents that cause a release of hazardous materials.

Hazardous waste generators and users in the City are required to comply with regulations enforced by several federal, state, and county agencies. The regulations aim toward reducing risk associated with human exposure to hazardous materials and minimizing adverse environmental effects. Hazardous materials also pass through the City in route to other designations via the freeway, rail, and surface street system. The Department of Transportation regulates the transport of hazardous materials on state highways and rail lines using established criteria for safe handling procedures. Federal safety standards are also included in the California Administrative Code and the California Health Services Department regulates the haulers of hazardous waste.

Potential Receptors/Exposure

The sensitivity of potential receptors is dependent on several factors, the primary factor being an individual's potential pathway for exposure. Exposure pathways include external exposure, inhalation, and ingestion of tainted air, water, or food. The magnitude, frequency, and duration of human exposure can cause a variety of health effects ranging from short-term acute symptoms to long-term chronic effects. Children at school are an example of a sensitive receptor that could be susceptible to significant effects from exposure to hazardous materials. Schools located within 0.25 mile of the Project site include Sonoma Valley High School (SVHS), Prestwood Elementary School, and Adele Harrison Middle School.

Wildfire Hazards

A wildland fire is a fire in which the primary fuel is natural vegetation. Fires ignited in wildland areas can quickly spread, if unabated, to areas where residential or commercial structures are intermingled with wildland vegetation. Similarly, fires that start in urbanized areas can grow into wildland fires. Wildland/urban interface fire hazards are especially pronounced in areas of high structure densities adjacent to undeveloped open space areas with dense vegetation. Wildland fire season in Sonoma County spans the months after the last spring rains have fallen and until the first fall or winter rains occur. The months of August, September and October have the greatest potential for wildland fires as vegetation dries out, humidity levels fall, and off shore winds blow. (City of Sonoma 2015).

As noted in the City of Sonoma's Municipal Code Section 14.10.005(D), the city's topography and terrain contain areas which are susceptible to wildland fires, having a local climate characterized by hot, dry summers with periodic high winds which are a predominate factor in the spread of fire by burning embers that are carried by the wind to adjacent exposed areas. According to the Wildfire Urban Interface - Fire Threatened Communities Map prepared by the California Department of Forestry and Fire Protection, the Project site is located in an area mapped as a fire-threatened community for wildland fires (ABAG 2019). The Project is not located in an area classified as a very high hazard severity zone; the nearest area classified as a very high hazard severity zone is located than 2.5 miles north of the site (Cal Fire 2007).

Airport Operations

The California Public Utilities Code establishes airport land use commissions in each county to provide for the orderly development of air transportation and to ensure compatible land uses around airports. In January 2001, the Sonoma County Airport Land Use Commission adopted the Comprehensive Airport Land Use Plan for Sonoma County (CALUP), which describes safety compatibility standards for six public use airports in Sonoma County. Sonoma Skypark is the nearest public use airport included in the CALUP, and is located approximately 1.75 miles southeast of the Project site. Sonoma Skypark lies in an agricultural area with surrounding homes and rural areas. The primary referral area, or airport influence area, follows Peru and Burndale Roads on the north, Ranal Road and its imaginary extension on the east, and the Southern Pacific Railroad, parcel lines, and Highway 12 on the south. On the west, the boundary follows Shainsky Road and parcel lines generally aligned with the imaginary extension of that road. The Project site is located approximately 1 mile north of the referral area boundary along Peru Road.

Emergency Operations

The *City of Sonoma Emergency Operations Plan* (EOP) establishes policies and procedures to ensure the effective management of emergency operations within the City of Sonoma. This includes effective management of response forces and resources in preparing for and responding to situations associated with natural disasters, terrorist attacks, technological incidents and national security emergencies. The EOP includes procedures for evacuation and/or sheltering of the population as situations warrant, however, the EOP does not formally designate evacuation routes/areas or specific care and shelter locations. The Project site is located along Highway 12, which is the primary transportation corridor through the City of Sonoma. Other roadways in the Project vicinity are two lane roads or surface streets.

3.7.2 Regulatory Framework

Federal

Hazardous Materials Management

The primary federal agencies with responsibility for hazardous materials management include the U.S. Environmental Protection Agency, the Occupational Safety and Health Administration, and the Department of Transportation. Federal laws, regulations, and responsible agencies relevant to the Project are summarized in Table 3.7-1 (Federal Laws and Regulations Related to Hazardous Materials Management).

Table 3.7-1 Federal Laws and Regulations Related to Hazardous Materials Management

Classification	Law or Responsible Federal Agency	Description
Hazardous Materials Management and Soil and Groundwater Contamination	Community Right-to-Know Act of 1986 (also known as Title III of the Superfund Amendments and Reauthorization Act [SARA])	Imposes requirements to ensure that hazardous materials are properly handled, used, stored, and disposed of and to prevent or mitigate injury to human health or the environment in the event that such materials are accidentally released.
	Comprehensive Environmental Response, Compensation and Liability Act of 1980 (amended by SARA 1986 and Brownfields Amendments 2002)	Regulates the cleanup of sites contaminated by releases of hazardous substances.
Hazardous Materials Transportation and Handling	U.S. Department of Transportation (DOT)	Has the regulatory responsibility for the safe transportation of hazardous materials. The DOT regulations govern all means of transportation except packages shipped by mail (49 Code of Federal Regulations [CFR]).
Occupational Safety	Occupational Safety and Health Act of 1970	Fed/OSHA sets standards for safe workplaces and work practices, including the reporting of accidents and occupational injuries (29 CFR).

Classification	Law or Responsible Federal Agency	Description
Structural and Building Components (Lead-based paint, PCBs, and asbestos)	Toxic Substances Control Act (TSCA)	Regulates the use and management of PCBs in electrical equipment, and sets forth detailed safeguards to be followed during the disposal of such items.
	U.S. EPA	The EPA monitors and regulates hazardous materials used in structural and building components and effects on human health.
Hazard Mitigation Planning	Stafford Act and Disaster Mitigation Act	Requires state, local, and tribal governments to develop and submit to the Federal Emergency Management Agency a mitigation plan that outlines processes for identifying natural hazards, risks, and vulnerabilities of the jurisdiction.

Federal Aviation Administration

Federal Aviation Regulation (FAR) Part 77, Subpart B requires that, for any construction or alteration taller than 200 feet above ground surface, notice must be given to the Administrator, who evaluates the effect of the construction or alteration on operational procedures, and assesses the effect of construction marking and lighting on the safety of air navigation.

State

California Government Code Section 65962.5

The State's Hazardous Waste and Substances Sites List (Cortese List, Government Code §65962.5) identifies sites with leaking underground fuel tanks, hazardous waste facilities subject to corrective actions, solid waste disposal facilities from which there is a known migration of hazardous waste, and other sites where environmental releases have occurred. Before a local agency accepts an application as complete for any development Project, the applicant must certify whether or not the Project site is on the Cortese List. Databases that provide information regarding the facilities or sites identified as meeting Cortese List requirements are managed by the Department of Toxic Substances Control and State Water Resources Control Board. At sites where contamination is suspected or known to have occurred, the site owner is required to perform a site investigation and conduct site remediation, if necessary. There are two cleanup standards; one for residential and the other for commercial/industrial land uses. Standards are set for soil, groundwater, soil gas, and vapor intrusion of contaminants into buildings.

Hazardous Materials and Waste

The California Environmental Protection Agency (CalEPA) oversees a Unified Program for hazardous materials and waste to ensure consistency throughout the State in regard to administrative requirements, permits, inspections, and enforcement. CalEPA certifies local government agencies known as Certified Unified Program Agencies (CUPA) to implement the hazardous waste and materials standards.

Hazardous Materials Transportation

The State of California has adopted Department of Transportation regulations for the intrastate movement of hazardous materials. State regulations are contained in Title 26 of the CCR. In addition, the State of California regulates the transportation of hazardous waste originating in the state and

passing through the state (26 CCR). Both regulatory programs apply in California. The two State agencies that have primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans).

Occupational Safety

Worker health and safety in California is regulated by Cal/OSHA. California standards for workers dealing with hazardous materials (including hazardous wastes) are contained in CCR Title 8. The DTSC and the State Department of Occupational Health and Safety are the agencies that are responsible for overseeing that appropriate measures are taken to protect workers from exposure to potential groundwater contaminants. At sites known or suspected to have soil or groundwater contamination, a site health and safety plan must be prepared. The health and safety plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at the contaminated site.

Emergency Response

California has developed an emergency response plan to coordinate emergency services provided by federal, State, and local government, and private agencies. Responding to hazardous materials incidents is a part of this plan. The plan is administered by the State Office of Emergency Services (OES), which coordinates the responses of other agencies such as local fire and police agencies, emergency medical providers, CHP, the California Department of Fish and Wildlife, and Caltrans.

California Fire Code

The California Fire Code Chapter 14 establishes provisions for fire safety during construction and demolition such as prohibition of smoking, disposal of combustible debris, storage of materials susceptible to spontaneous ignition, and storage and handling of flammable and combustible liquids. Chapter 26 establishes provisions for safety and care during construction activities defined as hot work (e.g., welding and cutting).

Regional and Local

Hazardous Materials and Waste

In the City of Sonoma, oversight of contaminated sites such as leaking USTs is performed by the Sonoma County Hazardous Materials Unit and the Sonoma County Environmental Health Department. This includes enforcement of the County's Certified Unified Program Agency (CUPA) programs and portions of the California Fire Code that address hazardous materials

Bay Area Air Quality Management District

The Bay Area Air Quality Management District's (BAAQMD) Regulation 11, Rule 2 (Asbestos Demolition, Renovation and Manufacturing) controls emissions of asbestos to the atmosphere during demolition and renovation activities and establishes appropriate waste disposal procedures. An asbestos-containing material is defined as any building material which contains commercial asbestos in an amount greater than 1% by weight, area, or count.

City of Sonoma Emergency Operations Plan

As noted in the Existing Setting section above, the *City of Sonoma Emergency Operations Plan* (EOP) establishes policies and procedures to ensure the effective management of emergency

operations within the City of Sonoma (City of Sonoma 2015). This includes effective management of response forces and resources in preparing for and responding to situations associated with natural disasters, terrorist attacks, technological incidents and national security emergencies. The EOP includes procedures for evacuation and/or sheltering of the population as situations warrant, however, the EOP does not formally designate evacuation routes/areas or specific care and shelter locations.

City of Sonoma General Plan

The *City of Sonoma 2020 General Plan* was consulted as a source of local information, conditions, and context, as well to provide rationale for certain impact determinations where other guidance was found to not exist or lacking.

The following goals and policies from the *City of Sonoma 2020 General Plan* are related to hazards and hazardous materials and applicable the Project.

Goal PS-1 Minimize risks to life and property associated with seismic and other geologic hazards, fire, hazardous materials, and flooding.

Policy 1.1 Require development to be designed and constructed in a manner that reduces the potential for damage and injury from natural and human causes to the extent possible.

Policy 1.3 Ensure that all development projects provide adequate fire protection.

Policy 1.6 Ensure that all operations that use, store, and/or transport hazardous materials comply with all applicable regulations.

3.7.3 Evaluation Criteria and Significance Thresholds

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized in Table 3.7-2 (Evaluation Criteria and Significance Thresholds) are used to determine if the Project would have a significant effect related to hazards and hazardous materials.

Table 3.7-2 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
HAZ-1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Non-compliance with State and federal hazardous materials or waste regulations Potential for improper transport, use, disposal, or accidental release of hazardous materials or wastes due to non-compliance with State and federal hazardous materials or waste regulations	CEQA Guidelines Appendix G, Checklist Item IX (a)(b) California (Title 8 and 26 of the CCR), and federal (CFR 29 and 49) hazardous materials and waste regulations
HAZ-2: Would the project emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Use, storage, or emission, of hazardous emissions / materials or acutely hazardous materials or waste in quantity equal to or in excess of the state thresholds and within 0.25 mile of a school	CEQA Guidelines Appendix G, Checklist Item IX (c) CEQA Guidelines Section 15186 California Health and Safety Code Section 25532, Section (j)

Evaluation Criteria	Significance Thresholds	Sources
HAZ-3: Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?	Location of project on or adjacent to a hazardous substance release site with presence or likely presence of hazardous substances or petroleum products	CEQA Guidelines Appendix G, Checklist Item IX (d) Government Code Section 65962.5 (Cortese List) CEQA Guidelines Section 15186
HAZ-4: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	Location of project within an airport land use plan and introduction of new or increased safety hazard	CEQA Guidelines Appendix G, Checklist Item IX (e) Sonoma County Comprehensive Airport Land Use Plan
HAZ-5: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Location of project in areas that impair or interfere with adopted plan, including emergency access routes	CEQA Guidelines Appendix G, Checklist Item IX (f) City of Sonoma Emergency Operations Plan
HAZ-6: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Location of project in a CALFIRE designated wildfire urban interface fire-threatened community very high fire hazard severity zone	CEQA Guidelines Appendix G, Checklist Item IX (g)

3.7.4 Approach to Analysis

This impact analysis focuses on the transport, use, and disposal of hazardous materials during construction, the potential to encounter hazardous substances in soil and groundwater, and the potential to discharge hazardous materials during Project operations. The evaluation was performed taking into consideration current conditions at the Project site, information in the Cortese List, and applicable regulations and guidelines. The analysis also addresses the potential for the Project to encounter hazardous materials during demolition activities; result in a release of hazardous materials from construction equipment; interfere with an adopted emergency response plan or emergency evacuation plan; conflict with a land use compatibility restriction within an airport safety zone; create fire hazards; or result in a release of hazardous materials during operation. Each potential impact is assessed in terms of the applicable regulatory requirements, and mitigation measures are identified as appropriate.

3.7.5 Impacts and Mitigation Measures

Table 3.7-3 (Summary of Impacts – Hazards and Hazardous Materials) provides a summary of potential impacts from the Project.

Table 3.7-3 Summary of Impacts – Hazards and Hazardous Materials

Impact	Project Significance
HAZ-1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	LS
HAZ-2: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	LS
HAZ-3: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	LS
HAZ-4: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	LS
HAZ-5: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	LS
HAZ-6: Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	LS
HAZ-C-1: Would the project result in a cumulatively considerable contribution to a significant cumulative impact related to hazards or hazardous materials?	LS

Notes: NI = No Impact

LS = Less than Significant

LSM = Less than Significant with Mitigation

Impact HAZ-1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Construction

Transport, Use or Disposal of Hazardous Materials, Including Accidental Release

Construction of the Project would include the use and transport of hazardous materials such as fuels, lubricants, paints, concrete curing compounds, and solvents and would be stored at designated construction staging areas. These materials are commonly used during construction, are not acutely hazardous, and would be used in relatively small quantities. However, storage and use of hazardous materials at construction sites and staging areas could potentially result in the accidental release of small quantities of hazardous materials, which could pose a risk to construction workers and the environment, such as degradation of soil and groundwater quality and/or surface water quality. Regular transport of such materials to and from the Project site during construction could also result in an incremental increase in the potential for accidents.

Numerous laws and regulations ensure the safe transportation, use, storage and disposal of hazardous materials. For example, Caltrans and the California Highway Patrol regulate the transportation of hazardous materials and wastes, including container types and packaging requirements, as well as licensing and training for

truck operators, chemical handlers, and hazardous waste haulers. Cal-OSHA also enforces hazard communication program regulations, which contain worker safety training and hazard information requirements, such as procedures for identifying and labeling hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees. As summarized in EIR Section 2.8 (Project Minimization and Avoidance Measures), implementation of Project Design Feature 2 (Stormwater Pollution Prevention Plan) is also included as part of the Project. Project Design Feature 2 requires the Project to include development and implementation of a Storm Water Pollution Prevention Plan that would comply with the City of Sonoma municipal storm water permit and the State Water Board's Construction General Permit. Both the City and State permits require the implementation of a best management practices addressing materials management, including proper material delivery and storage, spill prevention and control, and management of concrete and other wastes. Therefore, because the District and its contractors would be required to comply with existing and future hazardous materials laws and regulations covering the transport, use, and disposal of hazardous materials, the impacts associated with the potential to create a significant hazard to the public or the environment during construction of the Project would be **less than significant**.

Hazardous Building Materials

Construction would include demolition of an existing restroom facility and storage building which may include lead-based paint or asbestos-containing material. As required in the Cal/OSHA Lead Standard, the District would be required to sample the lead content in the buildings to be removed to determine whether the Standard applies. If lead were detected, the construction contractor would be required to comply with the Standard which requires the development and implementation of a lead compliance plan, including a description of the activities that could emit lead, methods that will be used to meet the safe work practices, Cal/OSHA notification requirements, and a plan to protect workers from lead exposure during construction activities. Therefore, compliance with the regulations and procedures already established would ensure that potential impacts to public health due to disturbance of lead-based paint during demolition would be **less than significant**.

The regulatory requirements for asbestos abatement in structures are described above in Section 3.7.2 (Regulatory Framework). For example, in accordance with BAAQMD Regulation 11, Rule 2 (Asbestos Demolition, Renovation and Manufacture), a survey must be conducted to identify asbestos-containing materials prior to demolition, and the BAAQMD must be notified 10 days in advance of any proposed demolition or abatement work. Containment must be provided during work that disturbs asbestos-containing materials and there must be no visible emissions to the outside air from demolition operations that involve asbestos-containing materials. The contractor must use methods specified in the regulations for control of emissions, and the contractor and hauler of the material are required to file a Hazardous Waste Manifest that details the hauling of the material from the site and its disposal. Therefore, compliance with the required handling and disposal procedures already established would ensure that potential

impacts due to disturbance of lead or asbestos during demolition would be **less than significant**.

Naturally Occurring Asbestos

Asbestos is a common name for a group of naturally occurring fibrous silicate minerals that are comprised of thin, but strong, durable fibers. Asbestos is a known carcinogen and presents a public health hazard if it is present in the friable (easily crumbled) form. Naturally occurring asbestos would most likely be encountered in Franciscan ultramafic rock (primarily serpentinite) or Franciscan mélange. Mapping produced by the California Department of Conservation providing a general location guide for ultramafic rock throughout the state was consulted for this analysis. This mapping did not show the presence of such rock in the Project area (California Department of Conservation 2000). Therefore, the Project would have **no impact** attributable to the exposure of persons to naturally occurring asbestos.

Operation

Use of Hazardous Materials

Routine operation of the Project would require the use of small quantities of hazardous materials, such as transformers for electrical power of lights, paints, cleaners for concession stands that would serve stadium events, and fertilizers for natural turf fields and landscaped areas, consistent with current fertilizer use. Similar to construction, the operational use and disposal of these hazardous materials would adhere to all applicable laws and regulations governing the safe transportation, use, storage, and disposal of hazardous materials described above. The operational impact would be **less than significant**.

Use of Synthetic Turf Field

The proposed all-weather synthetic turf would consist of a sand base, overlain by a Brock Safety Pad, natural cork, and an artificial turf carpet. The synthetic turf would be a linear low density polyethylene (LLDPE) grass yarn. Material Safety Data information for the artificial turf (an LLDPE grass yarn carpet) and the carpet backing indicates that no particular hazards are known and the products do not require a hazard warning label in accordance with GHS criteria. The sand layer would not pose a significant hazardous risk, as the sand would be intermixed with cork and turf material, and there would be little to no risk of inhalation exposure of persons to substantive amounts of sand during operation. The artificial turf would not require fertilizers and other chemicals, and wash water would be provided to the field and accessed by quick couplers. No chemicals would be required for normal field maintenance. Material Safety Data information indicates that the polymer materials in the synthetic turf can burn if exposed to a fire which can release hazardous gases and fumes. The synthetic turf that is proposed does not sustain burning and passes a stringent standard lab pill flame spread test. In addition, the sand and cork base act as natural fire retardants, and the new synthetic turf field would include quick couplers for water supplies with a new fire hydrant included near the field and concessions building. The impact would be **less than significant**.

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact HAZ-2: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Construction

The Project is located within one-quarter mile of three existing schools. The SVHS is the location of the proposed Project, which includes renovations to the existing recreational facilities at the high school. Prestwood Elementary School is located along E MacArthur Street immediately east of the northern portion of the reconstruction area. Adele Harrison Middle School is located along Broadway immediately south of SVHS.

Potentially hazardous materials to be used during construction would include lubricants, degreasers, paints, solvents, concrete curing compounds, asphalt materials, and fuels. These materials are commonly used during construction, are not acutely hazardous, and would be used in small quantities. Numerous laws and regulations ensure the safe transportation, use, storage, and disposal of hazardous materials (see Section 3.7.2 [Regulatory Framework]). Routine transport of hazardous materials to and from facility sites could result in an incremental increase in the potential for accidents. However, Caltrans and the CHP strictly regulate the transportation of hazardous materials and wastes.

Although construction activities could result in the inadvertent release of small quantities of hazardous construction chemicals, a spill or release is not expected to endanger individuals at nearby schools given the nature of the materials and the small quantities that would be used. Therefore, because the District and its contractors would be required to comply with existing and future hazardous materials laws and regulations covering the transport, use, and disposal of hazardous materials, and because of the nature and quantity of the hazardous materials, the potential impact on schools related to the use of hazardous materials would be **less than significant**. In addition, although the impact is considered less than significant, the standard BMPs that would be implemented under Project Design Feature 2 (Stormwater Pollution Prevention Plan) would require specific preventative practices for spill prevention and control. These standard BMPs would further serve to prevent and contain inadvertent releases of hazardous materials at construction sites.

Operation

Routine operation of the Project would require the use of small quantities of hazardous materials, such as transformers for electrical power of lights, paints, cleaners for concession stands that would serve stadium events, and fertilizers for natural turf fields and landscaped areas, consistent with current fertilizer use. These materials are commonly used during operation of facilities, are not acutely hazardous, and would be used in small quantities. The amount and manner of their use would not create a significant hazard to the public or environment.

As summarized in Impact HAZ-1, the materials to be used in the artificial turf field would not represent a new source of hazardous materials and the artificial turf would not require fertilizers or other chemicals. The Project would not include any new stationary source of hazardous emissions or include handling of acutely hazardous materials or wastes. Therefore, the operational impact is considered **less than significant**.

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact HAZ-3: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

State of California Government Code Section 65962.5, the Hazardous Waste and Substances Sites List (Cortese List), is a planning document used to comply with the CEQA requirements for providing information about the location of hazardous materials release sites. The online data resources that provide information on facilities or sites pursuant to Section 65962.5 include:

- List of Hazardous Waste and Substances sites from Department of Toxic Substances Control (DTSC) EnviroStor database;
- List of Open Active Leaking Underground Storage Tank Sites by from the State Water Board's GeoTracker database;
- List of solid waste disposal sites identified by Water Board with waste constituents above hazardous waste levels outside the waste management unit;
- List of "active" Cease and Desist Orders and Cleanup and Abatement Orders from the Water Board; and
- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC.

The Project site and off-site improvement areas are not included on an active site listed pursuant to Government Code Section 65965.5 (Cortese 2019).

The Project site has continuously been used as a High School since circa 1921. Historically, a 3,000 gallon underground diesel storage tank supplying the boilers at the high school was cemented in place under the oversight of the City of Sonoma Fire Department in 1986. A 500 gallon underground used oil storage tank was removed from the high school in 1996 and a 350 gallon underground gasoline tank was removed from the high school in 2000 under the oversight of the County of Sonoma Department of Health Services. Over-excavation of the areas surrounding the underground storage tanks was completed during tank remove and confirmation samples were collected, and no evidence of groundwater contamination was identified. The Sonoma County Department of Health Services issued a letter confirming that the prior site investigation and corrective actions carried out at the SVHS were conducted in compliance with Health and Safety Code requirements and that no further action related to the petroleum release was required (County of Sonoma 2006). The former case site has been closed since

2006, indicating that cleanup was completed and residual contamination, if any, is low. No additional hazardous waste generator sites have been identified adjacent to the construction areas. Therefore, based on a review of hazardous materials sites compiled pursuant to Government Code Section 65962.5, it is unlikely that soil or groundwater in the Project area has been impacted by activities at the high school or at off-site *hazardous waste generators*. The impact would be **less than significant**.

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact HAZ-4: Would the project for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The nearest public airport to the Project site is Sonoma Skypark, located approximately 1.75 miles to the southeast. The Project site is not located within the referral area boundary for Sonoma Skypark or within an airport safety zone. Therefore, although the Project site is located within two miles of a public airport, it is not located within an area covered by the Sonoma County Comprehensive Airport Land Use Plan, and the heights of the proposed field lights would be below FAR Part 77 airport related height limitations. Operation of the Project would not result in a safety hazard for people residing or working in the Project area. The impact would be **less than significant**.

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact HAZ-5: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Construction

The City of Sonoma EOP does not designate specific evacuation routes or sites within the city (City of Sonoma 2015). The majority of the reconstruction would occur on high school property located east of Nathanson Creek. Parking and driveway access would remain unobstructed during construction. Project construction would occur away from the primary occupied areas of the campus and is not expected to impair evacuation from school buildings to any emergency gathering points. Similarly, construction of the utility connections within Denmark Street would not impair implementation of or physically interfere with any adopted emergency response or evacuation plan.

Project operation would involve the assembly of large numbers of people in newly renovated recreational areas with limited exits, however, the renovated facilities would be incorporated into the school's existing evacuation plan and would comply with its standards for safety and evacuation. New fire gates would be installed at the terminus of Denmark Street and a new 20-foot-wide emergency vehicle access pathway would be constructed. The emergency pathway would provide improved first responder access to the renovated facilities, including the renovated natural

turf fields and the renovated track & field. The natural turf fields would include sprinklers and the new synthetic turf field would include quick couplers for water supplies, with a new fire hydrant included near the synthetic turf field and concessions building. The impact would be **less than significant**.

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact HAZ-6: Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

The city's topography and terrain contain areas which are susceptible to wildland fires, having a local climate characterized by hot, dry summers with periodic high winds which are a predominate factor in the spread of fire by burning embers that are carried by the wind to adjacent exposed areas. The Project site is located in an area mapped as a fire-threatened community for wildland fires (ABAG 2019), while the nearest area classified as a very high hazard severity zone is located than 2.5 miles to the north (Cal Fire 2007).

Proposed facility improvements include relocating and reconstructing the existing track facilities, football field and spectator seating, in addition to resurfacing the football field with synthetic turf. The existing basketball courts would be relocated and would continue to be paved and provide minimal fire risk. The baseball field would be relocated to the northeastern corner of the renovation area and include a natural grass surface. A natural grass open field is planned for the northwest corner of the renovation area. Natural grass softball and soccer fields would located be along the eastern edge of the renovation area. Built infrastructure would include seating, bleachers, batting cages, and concession stands. To the extent possible, existing trees would remain on site and new trees would be replanted throughout the Project site. The Nathanson Creek riparian corridor, which includes numerous trees adjacent to the renovation area, would remain undisturbed.

Natural grass fields would be maintained such that grass is not long, minimizing the risk of grassland wildfire. The Material Safety Data information indicates that the polymer materials in the synthetic turf proposed for the football field can burn if exposed to a fire, however, the proposed synthetic turf does not sustain burning and passes a stringent standard lab pill flame spread test. The new synthetic turf field would include quick couplers for water supplies, with a new fire hydrant included near the field and concessions building.

It is possible fire ignition could occur during construction (e.g. related to heavy machinery usage), or that operational fire ignition could occur related to facility maintenance or other causes of accidental ignition. The Project site could also be subject to wildland fires that spread to the Project area from surrounding areas. However, the Project would not otherwise increase exposure to wildlife fire above existing conditions. In the event of a fire or wildland fire, the District's existing evacuation plan would be implemented, compliant with its standards for safety and evacuation.

The Project would be compliant with *City of Sonoma 2020 General Plan* Policy 1.3, which requires all development projects provide adequate fire protection. New fire

gates would be installed at the terminus of Denmark Street and a new 20-foot-wide emergency vehicle access pathway would be constructed. The emergency pathway would provide improved first responder access to the renovated facilities, including the renovated natural turf fields and the renovated track & field. The natural turf fields would include sprinklers and the new synthetic turf field would include quick couplers for water supplies, with a new fire hydrant included near the synthetic turf field and concessions building. Adequate turning path at the end of the emergency access pathway is provided to allow emergency vehicles to quickly maneuver and egress. The impact would be **less than significant**.

Significance	<i>Less than Significant</i>
Mitigation	No mitigation is required.

3.7.6 Cumulative Impacts

Impact HAZ-C-1: Would the project result in a cumulatively considerable contribution to a significant cumulative impact related to hazards or hazardous materials?

The Project would be subject to existing and future laws and regulations governing hazardous materials, which would minimize Project-related impacts to a less-than-significant level. Implementation of the cumulative projects listed in Table 3-1 (Projects Considered for Cumulative Impacts) may also result in the use, transport, and disposal of hazardous materials during construction. Each of the cumulative projects would also be required to comply with existing and future laws and regulations governing hazardous materials, similar to the proposed Project. For this reason, the potential cumulative impact from the use, transport, and disposal of hazardous materials during construction would be **less than significant**.

Impacts related to potential on-site contamination that could be encountered during construction are generally a site-specific issue. The Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and is not expected to be affected by residual contamination from former leaking underground storage tanks on or adjacent to the site. Because of the localized nature of such impacts, the cumulative impact would be **less than significant**.

The projects listed in Table 3-1 (Projects Considered for Cumulative Impacts) are not anticipated to require construction activities within roadways near the project sites, with the exception of the Caltrans Highway 12 Restriping and Improvements Project. The Caltrans project would have a traffic control plan in place to allow for adequate emergency access during construction. Therefore, the cumulative impact related to emergency access would be **less than significant**.

Some of the cumulative projects may be located in areas mapped as a fire-threatened community for wildland fires. None of the cumulative projects would be located on land designated as very high fire hazard severity zones. Each of the cumulative projects would be required to provide adequate fire protection and the cumulative projects would not combine to create a significant cumulative effect related to risk from fire. Therefore, the cumulative impact related to wildfire would be **less than significant**.

Similar to the Project, none of the cumulative projects are located within an airport referral area boundary, airport safety zone, or within an area covered by the Sonoma County Comprehensive Airport Land Use Plan. Therefore, the cumulative impact related to safety near an airport would be **less than significant**.

Significance	<i>Less than Significant</i>
Mitigation	No mitigation is required.

3.8 Hydrology and Water Quality

This section evaluates potential environmental impacts related to hydrology and water quality during construction and operation of the Project. In addition to the analysis provided in this section, the following subjects are related to hydrology and water quality, but are evaluated in other sections of this EIR:

- Potential impacts to riparian habitat and federal- and state-jurisdictional waterbodies are addressed in Section 3.3 (Biological Resources).
- Potential impacts related to loss of topsoil are addressed in Section 3.5 (Geology, Soils and Seismicity).
- Potential impacts related to soil and groundwater contamination is addressed in Section 3.7 (Hazards and Hazardous Materials).
- Potential impacts related to construction of new storm drain facilities are addressed in Section 3.13 (Utilities and Service Systems).

3.8.1 Existing Setting

Climate and Topography

The City of Sonoma has a Mediterranean climate with cool, wet winters and hot, dry summers. Average annual precipitation is 29.43 inches, with most precipitation occurring between October and April (Western Regional Climate Center 2019).

The renovation area slopes gently south-southwest towards Nathanson Creek. Elevations at the site range from approximately 68 feet above mean sea level (msl) in the northern portion of the site to 62 feet above msl in the southern portion of the site.

Surface Water Hydrology

The Project site is located in Sonoma Creek watershed, which drains approximately 170 square miles from its headwaters in Sugarloaf Ridge State Park to the San Pablo Bay (Sonoma County Resource Conservation District 2019). Nathanson Creek—a major tributary to Sonoma Creek—flows north-to-south along the western site boundary. Nathanson Creek drains to Schell Creek and ultimately into San Pablo Bay. Nathanson Creek is an anadromous tributary. Sonoma Water installed a stream gage in Nathanson Creek after recent significant fire events to monitor flood elevations that might overtop local streets as a result of hydrophobic soils. A rating curve has not yet been developed to convert stage data into discharge data.

The Nathanson Creek Preserve, the 0.25-mile reach of Nathanson Creek extending from East MacArthur Street in the north to Nathanson Creek Park in the south, is a collaborative effort between Sonoma Water, Sonoma Ecology Center, Sonoma Valley Unified School District, and other partners aimed at flood management, groundwater recharge, and habitat enhancement (Sonoma County Water Agency 2016).

Existing runoff from the renovation area generally occurs as overland sheet flow towards Nathanson Creek along the site's western boundary. There are three storm drains that serve the renovation area. An 18-inch storm drain in the far north of the site, an 8-inch storm drain that serves the existing track & field, and 24-inch storm drain that serves the remainder of the renovation area. A 36-inch-

diameter storm drain exists along the Denmark Street pedestrian path along the southern portion of the renovation area. This storm drain conveys runoff from the residential area east of the renovation area, through the Campus to Nathanson Creek. It does not serve the Project site.

Groundwater

The renovation area overlays the Sonoma Valley Groundwater Basin, which encompasses 166 square miles along the Sonoma Creek corridor (Sonoma Valley Groundwater Management Agency 2019). The groundwater basin has two water-bearing zones—a shallow aquifer and deep aquifer. Groundwater levels in the shallow zone are generally steady; however, monitoring wells indicate chronic declines in the deeper aquifer in the southern Sonoma Valley. The southern Sonoma Valley also experiences brackish groundwater quality, which is another indication that withdrawals exceed recharge and replenishment (Sonoma Valley Groundwater Management Agency 2019b). The Sonoma Valley Groundwater Management Agency is in the process of preparing a Groundwater Sustainability Plan for the basin (Sonoma Valley Groundwater Management Agency 2019). The City of Sonoma is located in the California Department of Water Resources (DWR) Basin 2-002.02, Napa-Sonoma Valley-Napa Valley. The basin is a high priority basin and includes the surrounding vineyard, communities, and agricultural areas, extending from north of Glen Ellen south to San Pablo Bay (DWR 2019).

Flood Hazards

100-Year Flood Hazard Zone

The Federal Emergency Management Agency's (FEMA) National Flood Hazard Mapping Program maintains flood hazard and risk data to assist communities with floodplain management. The 100-year flood zone is delineated by FEMA effective December 2, 2008 in Map 06097C Panels 0937E and 0939E (FEMA 2008). The FEMA Flood Insurance Rate Map (FIRM) for the renovation area indicates the southwestern portion of the renovation area is located within 500-year flood hazard zone for Nathanson Creek. The renovation area is not within a 100-year flood hazard zone (City of Sonoma 2019b; FEMA 2008).

Dam Inundation

The California Office of Emergency Services (OES) is required by State law to work with State and federal agencies, dam owners and operators, municipalities, floodplain managers, planners, and the public to make available dam inundation maps. Dam inundation maps are used in the preparation of Local Hazard Mitigation Plans (LHMPs) and General Plan Safety Element updates. In addition, Cal OES requires all dam owners to develop Emergency Action Plans (EAPs) for warning, evacuation, and post-flood actions in the event of a dam failure. According to the dam inundation maps provided by OES, the renovation area is not within a dam inundation zone. In addition, there are no levees in the vicinity of the renovation area (DSOD 2019).

Tsunami Inundation

A tsunami is a sea wave caused by a sudden displacement of the ocean floor, most often due to earthquakes. The renovation area is more than 10 miles north of San Pablo Bay and roughly 70 feet above sea level. The site is too far inland and too high in elevation to be subject to tsunami hazards and is not located in a mapped area of tsunami inundation.

Seiche

A seiche is an oscillation wave generated in a closed or partially closed body of water, which can be compared to the back-and-forth sloshing in a bathtub. Seiches can be caused by winds, changes in atmospheric pressure, underwater earthquakes, tsunamis, or landslides into the water body. Bodies of water such as bays, harbors, reservoirs, ponds, and swimming ponds can experience seiche waves up to several feet in height during a strong earthquake. There are no large bodies of water in the vicinity of the renovation area and there are no nearby reservoirs that could trigger a seiche.

3.8.2 Regulatory Framework

Federal

Clean Water Act

The federal Clean Water Act (CWA), enacted by Congress in 1972 and amended several times since, is the primary federal law regulating water quality in the United States and forms the basis for several State and local laws throughout the country. The CWA established the basic structure for regulating discharges of pollutants into the waters of the United States. The CWA gave the U.S. Environmental Protection Agency (EPA) the authority to implement federal pollution control programs, such as setting water quality standards for contaminants in surface water, establishing wastewater and effluent discharge limits for various industry categories, and imposing requirements for controlling nonpoint source pollution. The National Pollutant Discharge Elimination System (NPDES) permit program under Section 402(p) of the CWA controls water pollution by regulating stormwater discharges into the waters of the US. California has an approved state NPDES program. The EPA has delegated authority for water permitting to the State Water Resources Control Board (SWRCB), which has nine regional boards. The San Francisco Bay Regional Water Quality Control Board (RWQCB) regulates water quality in Region 2, which includes the city of Sonoma.

Section 303(d) of the Federal Clean Water Act requires state governments to present the USEPA with a list of “impaired water bodies,” defined as those water bodies that do not meet water quality standards, even after point sources of pollution have been equipped with the minimum required levels of pollution control technology. Nathanson Creek and Schell Creek are not listed on the Section 303(d) list administered by the San Francisco Bay RWQCB. San Pablo Bay, the receiving waters of Nathanson Creek, is listed for the following constituents: chlordane, dichlorodiphenyltrichloroethane (DDT), dieldrin, dioxin compounds, furan compounds, invasive species, mercury, polychlorinated biphenyls (PCBs), and selenium. A Total Maximum Daily Load (TMDL) program has not been prepared for San Pablo Bay; however TMDLs do exist for the broader San Francisco Bay to manage PCBs, copper, dredge sediments, and mercury.

Sections 401 and 404 of the CWA are administered through the regulatory program of the U.S. Army Corps of Engineers (USACE) and regulate the water quality of all discharges of fill or dredged material into waters of the U.S., including wetlands and intermittent stream channels. Section 401, Title 33, Section 1341 of the CWA sets forth water quality certification requirements for “any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters.” The proposed Project would not result in any disturbance within the Nathanson Creek channel or riparian corridor. Therefore, the acquisition of a permit from the USACE or San Francisco Bay RWQCB would not be required.

National Flood Insurance Program

FEMA administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA also issues Flood Insurance Rate Maps identifying which land areas are subject to flooding. The maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA, with the minimum level of flood protection for new development determined to be the 1-in-100 annual exceedance probability (i.e., the 100-year flood event). The renovation area is entirely located outside 100-year flood hazard zone.

State

Porter Cologne Water Quality Control Act

The Porter Cologne Water Quality Control Act is the primary statute covering the quality of waters in California. Under the Act, the SWRCB has the ultimate authority over State water rights and water quality policy. The nine RWQCBs regulate water quality under this Act through the regulatory standards and objectives set forth in Water Quality Control Plans (also referred to as Basin Plans) prepared for each region.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) requires governments and water agencies of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. The Project is located in a high priority groundwater basin (No. 2-002-02). Under SGMA, high priority basin should reach sustainability within 20 years of implementing their sustainability plans. Locally, the SGMA is administered by the Sonoma Valley Groundwater Sustainability Agency. Development of a sustainability plan remains in process.

Statewide General Construction Permit

Construction projects of one acre or more are regulated under the General Construction Permit, Order No. 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-0006-DWQ), to include postconstruction requirements. Under the terms of the permit, applicants must file Permit Registration Documents (PRDs) with the SWRCB prior to the start of construction. The PRDs include a Notice of Intent (NOI), risk assessment, site map, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and a signed certification statement. The PRDs are now submitted electronically to the SWRCB via the Stormwater Multiple Application and Report Tracking System (SMARTS) website. Applicants must also demonstrate conformance with applicable best management practices (BMPs) and prepare a SWPPP, containing a site map 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 site. The SWPPP must list BMPs that would be implemented to prevent soil erosion and discharge of other construction-related pollutants that could contaminate nearby water resources. Additionally, the SWPPP must contain a visual monitoring program, a chemical monitoring program for nonvisible pollutants if there is a failure of the BMPs, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Some sites also require implementation of a Rain Event Action Plan (REAP). The updated General Construction Permit (Adopted Order 2009-0009-DWQ as amended 2010-0014-DWQ and 2012-0006-DWQ), effective September 2, 2012, also requires applicants to comply with post-construction runoff reduction requirements. Since the Project would result in more than one acre of construction disturbance, it would be subject to these requirements.

Antidegradation Policy

The Statement of Policy with Respect to Maintaining High Quality of Waters in California, known as the Antidegradation Policy (State Water Board Resolution No. 68-16), requires the continued maintenance of existing high quality waters. This policy is aimed at protecting relatively uncontaminated aquatic systems and preventing further degradation. It provides conditions under which a change in water quality is allowable. A change must:

- Be consistent with maximum benefit to the people of the State
- Not unreasonably affect present and anticipated beneficial uses of water
- Not result in water quality less than that prescribed in water quality control plans or policies

Regional and Local

Regional Water Quality Control Board (San Francisco Bay Region)

RWQCBs adopt and implement water quality control plans (Basin Plans) which recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems. The current Basin Plan prepared by the San Francisco Bay RWQCB provides a definitive program of actions designed to preserve and enhance water quality and to protect beneficial uses of surface water and groundwater in the region, including the City of Sonoma (SFBRWQCB 2017). Existing beneficial uses for Nathanson Creek, as designated in the Basin Plan, include:

- Cold freshwater habitat,
- Fish migration,
- Preservation of rare and endangered species,
- Water contact recreation,
- Non-contact water recreation,
- Fish spawning,
- Warm freshwater habitat, and
- Wildlife habitat.

Parameters regulated in the Basin Plan but unaffected by the Project include:

- Color
- Tastes and odors
- Biostimulatory substances
- Conductance
- Total dissolved solids (TDS)
- Bacteria
- Radioactivity
- Tastes and odors

Basin Plan parameters relevant to potential water quality impacts of Project actions are detailed below.

Floating Material: Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

Suspended Material: Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

Settleable Material: Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affect beneficial uses.

Oil and Grease: Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.

Sediment: The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

Turbidity: Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.

pH: The pH shall conform to those limits listed in the basin plan. The pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.2 units in waters with designated marine (MAR) or saline (SAL) beneficial uses nor 0.5 units within the range specified above in fresh waters with designated COLD or WARM beneficial uses.

Dissolved Oxygen: Dissolved oxygen concentrations shall conform to a 90 percent lower limit of 7.5 mg/L and a 50 percent lower limit of 10.0 mg/L.

Temperature: Temperature objectives for COLD interstate waters, WARM interstate waters, and Enclosed Bays and Estuaries are as specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California" including any revisions thereto. In addition, the following temperature objectives apply to surface waters:

The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

At no time or place shall the temperature of any COLD water be increased by more than 5°F above natural receiving water temperature.

At no time or place shall the temperature of WARM intrastate waters be increased more than 5°F above natural receiving water temperature.

Toxicity: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective would be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods as specified by the Regional Water Board.

Pesticides: No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. There shall be no bioaccumulation of pesticide concentrations found in individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. There shall be no bioaccumulation of pesticide concentrations found

in bottom sediments or aquatic life. Waters designated for use as domestic or municipal supply shall not contain concentrations of pesticides in excess of the limiting concentrations set forth in California Code of Regulations, Title 22, Division 4, Chapter 15, Article 4, Section 64444.5.

Chemical Constituents: Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Division 4, Article 4, Section 64435 and Section 64444.5, and listed in Table 3.9-2 of this Plan. Groundwater used for domestic or MUN shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Division 4, Chapter 15, Article 4, Section 64435 and Section 64444.5. Groundwater used for agricultural supply shall not contain concentrations of chemical constituents in amounts that adversely affect such beneficial use. Waters designated for use as agricultural supply (ARG) shall not contain concentrations of chemical constituents in amounts which adversely affect such beneficial use.

Groundwater is also included in the Basin Plan. Existing and potential beneficial uses applicable to groundwater include municipal and domestic water supply, industrial process supply, agricultural water supply, groundwater recharge, and freshwater replenishment. Unless otherwise designated, all groundwater is considerable suitable or potentially suitable for municipal domestic water supply (SFBRWQCB 2017).

Sonoma Water Temporary Discharge Permit

A Temporary Discharge Permit is required to discharge water sourced from dewatering to the sanitary sewer consistent with the Sonoma Water Agency Sanitation Code Ordinance. The ordinance sets forth uniform requirements for contributors to the wastewater collection and treatment systems of the Agency, and enables the Agency to comply with all applicable State and Federal laws required by the Clean Water Act of 1977, as amended, and the General Pretreatment Regulations (40 CFR Part 403).

Phase II Small Municipal Separate Storm Sewer System (MS4) Program

The City of Sonoma's current stormwater permit is included in the Phase II Small Municipal Separate Storm Sewer System (MS4) Program under the State Water Resources Control Board Order Number 2013-0001-DWQ and NPDES General Permit Number CAS00004. Included in the permit are Low Impact Development (LID) design standards to reduce runoff, treat stormwater, and provide baseline hydromodification management. LID standards detailed in the permit include:

- Define the development envelope and protected areas, identifying areas that are most suitable for development and areas to be left undisturbed.
- Concentrate development on portions of the site with less permeable soils and preserve areas that can promote infiltration.
- Limit overall impervious coverage of the site with paving and roofs.
- Set back development from creeks, wetlands, and riparian habitats.
- Preserve significant trees.
- Conform the site layout along natural landforms.
- Avoid excessive grading and disturbance of vegetation and soils.

- Replicate the site's natural drainage patterns.
- Detain and retain runoff throughout the site.

Stormwater Treatment Measures and Baseline Hydromodification Management Measures detailed in the permit include:

- Maximum surface loading rate of 5 inches per hour, based on the flow rates calculated. A sizing factor of 4% of tributary impervious area may be used.
- Minimum surface reservoir volume equal to surface area times a depth of 6 inches.
- Minimum planting medium depth of 18 inches. The planting medium must sustain a minimum infiltration rate of 5 inches per hour throughout the life of the Project and must maximize runoff retention and pollutant removal. A mixture of sand (60%-70%) meeting the specifications of American Society for Testing and Materials C33 and compost (30%-40%) may be used.
- Subsurface drainage/storage (gravel) layer with an area equal to the surface area and having a minimum depth of 12 inches.
- Underdrain with discharge elevation at top of gravel layer.
- No compaction of soils beneath the facility, or ripping/loosening of soils if compacted.
- No liners or other barriers interfering with infiltration.
- Appropriate plant palette for the specified soil mix and maximum available water use.

City of Sonoma Municipal Code

The City of Sonoma Municipal Code provides the following development guidelines and requirements:

- Creekside Development – Chapter 19.49.020. This chapter applies to any property adjoining or including Nathanson Creek and include development standards such as 30-foot wide setbacks, requirements for pervious surfaces, and provisions to protect riparian resources.
- Stormwater Management and Discharge Control – Chapter 13.32. This chapter provides the stormwater requirements for projects conducted within the city of Sonoma and is consistent with the requirements of the Phase II Small MS4 Permit.
- Water Efficient Landscaping – Chapter 14.32. This chapter applies to all new landscape projects and rehabilitated landscape projects and requires each applicant to submit a landscape design plan that incorporates drought-resistant plants and energy-efficient and water-conserving irrigation systems. A Maximum Applied Water Allowance (MAWA) form must be submitted to the City that includes calculations to determine the site-specific water budget that will meet the MAWA.
- Erosion and Sediment Control Regulations – Chapter 14.20.200. In order to control erosion and sedimentation and protect stormwater quality during construction activities, an erosion and sedimentation control plan must be submitted as part of every grading permit application. The erosion and sedimentation control plan must delineate measures to minimize soil erosion and sedimentation and comply with construction site control measures as described in this chapter.

Grading permits are required for excavations and stockpiles of 50 cubic yards or more of soil.

Erosion and Sediment Control Best Management Practices, as established by the City, are required for soil disturbing activities such as trenching and excavation.

City of Sonoma General Plan

The City of Sonoma 2020 General Plan policies cover flood protection and flood hazards, as well as watershed protection and erosion control, including:

Goal PS-1 Minimize risk to life and property associated with seismic and other geologic hazards, fire, hazardous materials, and flooding.

Policy 1.7 Reduce the potential for local flooding to the extent possible.

Goal ER-2 Identify, preserve, and enhance important habitat areas and significant environment resources.

Policy 2.4 Protect Sonoma Valley watershed resources, including surface and ground water supplies and quality.

Policy 2.5 Require erosion control and soil conservation practices that support watershed protection.

3.8.3 Evaluation Criteria and Significance Thresholds

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized in Table 3.8-1 (Evaluation Criteria and Significance Thresholds) are used to determine if the Project would have a significant effect related to hydrology and water quality.

Table 3.8-1 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
HWQ-1: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Non-compliance with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities.	CEQA Guidelines Appendix G, Checklist Item X (a)
	Non-compliance with the City of Sonoma NPDES Storm Water Permit.	San Francisco Bay Regional Water Quality Control Basin Plan
	Alteration of the course of a stream, river, or waterway in a manner that creates erosion or siltation.	General Construction Permit (Order No. 2009-0009, as amended by Order No. 2010-0014 & 2012-006)
	Creation of increased quantity of runoff such that capacity of storm drains would be exceeded.	City of Sonoma Municipal Code Chapters 19.49.020, 13.32, 14.32, and 14.20.200
		City of Sonoma Erosion and Sediment Control Best Management Practices
		City of Sonoma General Plan Policy 2.4 and Policy 2.5
		Phase II Small MS4 General Permit (Order No. 2013-0001)

Evaluation Criteria	Significance Thresholds	Sources
HWQ-2: Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<p>Creation of a deficit in aquifer volume or lowering of groundwater levels such that the production rates of nearby domestic wells would not support existing uses.</p> <p>Creation of a substantial amount of new impervious surfaces that would interfere with groundwater recharge.</p>	<p>CEQA Guidelines Appendix G, Checklist Item I (b)</p> <p>Sonoma County Groundwater Agency Groundwater Sustainability Plan (in preparation)</p>
HWQ-3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<p>Uncontrolled runoff from construction site.</p> <p>Non-compliance with City of Sonoma storm water requirements.</p> <p>Non-compliance with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities.</p>	<p>CEQA Guidelines Appendix G, Checklist Item X (c) (ii)</p> <p>City of Sonoma Municipal Code Chapter 13.32</p> <p>City of Sonoma Erosion and Sediment Control Best Management Practices</p> <p>City of Sonoma General Plan Policy 2.4 and Policy 2.5</p> <p>General Construction Permit (Order No. 2009-0009, as amended by Order No. 2010-0014 & 2012-006)</p>
HWQ-4: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	Project actions would result in on-site or off-site flooding.	<p>CEQA Guidelines Appendix G, Checklist Item X (c) (i)</p> <p>FEMA flood protection standards</p> <p>City of Sonoma Municipal Code Chapter 19.41.020</p> <p>City of Sonoma General Plan</p>
HWQ-5: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<p>Creation of increased quantity of runoff such that capacity of storm drains would be exceeded.</p> <p>Project actions would result in polluted runoff.</p>	<p>CEQA Guidelines Appendix G, Checklist Item X (c) (iii)</p> <p>City of Sonoma Municipal Code Chapter 13.32</p> <p>Phase II Small MS4 General Permit (Order No. 2013-0001)</p>

Evaluation Criteria	Significance Thresholds	Sources
HWQ-6: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?	<p>Project actions would impede or redirect flood flows.</p> <p>Placement of aboveground facilities in a 100-year flood hazard area.</p>	<p>CEQA Guidelines Appendix G, Checklist Item X (c) (iv)</p> <p>FEMA flood protection standards</p> <p>City of Sonoma Municipal Code Chapter 19.41.020</p> <p>City of Sonoma General Plan</p>
HWQ-7: Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	Placement of facilities in a 100-year flood hazard area or in areas of potential inundation from dam failure, tsunami, or seiche.	<p>CEQA Guidelines Appendix G, Checklist Item X (d)</p> <p>FEMA flood protection standards</p> <p>City of Sonoma Municipal Code Chapter 19.41.020</p>
HWQ-8: Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Conflict with Basin Plan or groundwater management planning.	<p>CEQA Guidelines Appendix G, Checklist Item X (e)</p> <p>San Francisco Bay Regional Water Quality Control Basin Plan</p> <p>Sonoma County Groundwater Agency Groundwater Sustainability Plan (in preparation)</p> <p>City of Sonoma General Plan Policy 2.4 and Policy 2.5</p>

3.8.4 Approach to Analysis

Potential impacts to surface water quality are evaluated for both construction and operational activities. Water quality standards and objectives are achieved primarily through the establishment of NPDES permits and waste discharge requirements. Therefore, to evaluate whether construction or operation of the Project would result in a violation of water quality standards or waste discharge requirements, Project compliance with potentially applicable NPDES permits or waste discharge requirements is evaluated. Construction and operation of the Project is also evaluated to determine compliance with applicable federal, State, and local permitting and design requirements related to flooding and drainage, as well as determining if the renovation area is located within a FEMA flood hazard area or dam inundation area.

To evaluate whether construction or operation of the Project would impact groundwater, the extent of excavation dewatering that may be required during construction is evaluated to investigate the potential for aquifer depletion. The amount of new impervious surfaces that would be created are evaluated for their potential to interfere with groundwater recharge. The evaluation also considers additional runoff from new impervious areas, and whether such increases would increase flooding at or downstream of the Project site.

3.8.5 Impacts and Mitigation Measures

Table 3.8-2 (Summary of Impacts – Hydrology and Water Quality) provides a summary of potential impacts from the Project.

Table 3.8-2 Summary of Impacts – Hydrology and Water Quality

Impact	Project Significance
HWQ-1: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	LS
HWQ-2: Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	LS
HWQ-3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	LS
HWQ-4: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	LS
HWQ-5: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	LS
HWQ-6: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would Impede or redirect flood flows?	LS
HWQ-7: Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	LS
HWQ-8: Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	LS
HWQ-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to hydrology and water quality?	LS

Notes: NI = No Impact

LS = Less than Significant

LSM = Less than Significant with Mitigation

Impact HWQ-1: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Construction

Project construction activities include:

- Site access and staging;
- Grading and excavation to demolish existing athletic facilities and install new facilities, including ADA parking, a biofiltration basin, athletic fields and supporting utilities, including lighting, water, and electrical;
- Potential localized dewatering;

- Landscaping;
- Stormwater treatment and detention.

The greatest potential Project impacts to water quality would result from construction and operation activities such as site clearing, grading, excavation, and material stockpiling could leave soils exposed to rain or surface water runoff that may carry soil contaminants (e.g., nutrients or other pollutants) into Nathanson Creek, degrade water quality, and potentially violate water quality standards for specific chemicals, dissolved oxygen, suspended sediment, or nutrients.

Project construction activities could also be a source of chemical contamination from use of alkaline construction materials (e.g., concrete) and hazardous or toxic materials (e.g., fuels, solvents, asphalt, and paints). If not properly managed, construction activities could result in the accidental release of chemical loads which could be carried downstream in storm water runoff, which could affect water quality.

SWRCB Order No. 2009-0009 (as amended by 2010-0014-DWQ and 2012-0006-DWQ) applies to public and private construction projects that include one or more acres of soil disturbance. Because the proposed Project is anticipated to disturb over one (1) acre of land, compliance with Order No. 2009-0009 would be required. As summarized in EIR Section 2.8 (Project Minimization and Avoidance Measures), implementation of Project Design Feature 2 (Stormwater Pollution Prevention Plan) is included as part of the Project. Project Design Feature 2 requires the Project to include development and implementation of a SWPPP that would comply with applicable water quality control measures contained in the State Water Board's Construction General Permit. The Construction SWPPP would identify and specify the use of erosion sediment control BMPs for control of pollutants in stormwater runoff during construction related activities, and would be designed to address water erosion control, sediment control, off-site tracking control, wind erosion control, non-stormwater management control, and waste management and materials pollution control. A sampling and monitoring program would be included in the Construction SWPPP that meets the requirements of the RWQCB to ensure the BMPs are effective. A Qualified SWPPP Practitioner would oversee implementation of the Plan, including visual inspections, sampling and analysis, and ensuring overall compliance.

With implementation of Project Design Feature 2, the Project would comply with applicable waste discharge requirements reducing potential impacts relative to water quality standards and waste discharge requirements from the Project to a less-than-significant level. Storm water control measures would be required to manage construction-related storm water discharges, including measures to control erosion and sedimentation and to minimize risk of accidental releases of chemicals or hazardous materials. As a result, the potential impacts on water quality following would be **less than significant**.

If construction dewatering were required during excavation activities, groundwater generated during dewatering activities may contain elevated levels of sediment and turbidity, which if discharged to surface waters could result in localized impacts to water quality. As described in the Chapter 2 (Project Description), if dewatering

is necessary it would be disposed to the sanitary sewer or reserved for dust control. In the event it was disposed to the sanitary sewer, the District would apply for a Temporary Discharge Permit with Sonoma Water and comply with all conditions placed on the permit. As discharge to surface waters would not occur, there would be **no impact** from dewatering.

Operation

Stormwater associated with all new impervious surfaces would be addressed through the Project LID features, which have been designed to comply with the BASMAA Post-Construction Manual to be consistent with the City of Sonoma's Phase II Small MS4 General Permit requirements.

Operational impacts would be limited to site use and seasonal irrigation. In addition to existing regularly scheduled maintenance and upkeep of the athletic fields, the Project's renovated facilities would be repaired on an as-needed basis to maintain structures in good working condition and provide a safe environment for students and patrons.

Following construction, general maintenance activities such as landscaping, general repairs, replacement of light fixtures, and trash removal, would continue to occur. Operation would remain very similar to that of the existing facility.

Field irrigation and cleaning would require seasonal use of sprayed water. All irrigation and cleaning water would quickly infiltrate into fields and pervious surfaces. Ponding or discharge to Nathanson Creek or the stormwater system would not occur.

The synthetic turf would be maintained in accordance with the manufacturer's guidelines. This would include litter and debris removal, occasional grooming, minor watering to remove spilled liquids, and annual maintenance. Synthetic turf fields are considered self-treating for the purpose of stormwater treatment, because they would have a gravel layer below the cork layer and subsurface drainage. The new subsurface drainage system would convey stormwater in pipes and gravel trenches from a 10-year storm event. Impacts to water quality during operation of the Project would be **less than significant**.

Significance *Less than significant*

Mitigation No mitigation is required.

Impact HWQ-2: Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Construction

Results of the geotechnical investigation indicated that excavations may encounter shallow groundwater within three to five feet of the ground surface if excavations are performed during or after wet periods designated as November through June (Brunsing Associates, Inc. 2018). Project excavation would predominantly be limited to shallow grading, and dewatering would not be necessary. However, depending on the timing of Project renovations, limited dewatering may be

necessary to install utilities and other Project elements requiring excavation (Brunsing Associates, Inc. 2018). Such temporary dewatering would have, at most, a very small effect on localized water levels in the immediate vicinity of the excavation, and no substantial deficit in aquifer volume or lowering of water levels would occur. The impact would be **less than significant**.

Operation

Operation of the Project would not directly utilize groundwater, and would not result in an increase in population or employment that would indirectly increase groundwater demand. Irrigation of baseball and softball fields would utilize recycled water. Irrigation would not be pumped from wells or otherwise utilize groundwater. Therefore, the Project would not create a deficit in aquifer volume or a lowering of water levels. Although the Project would result in an increase in impermeable surfaces to the local aquifer recharge area, implementation of LID features would collect runoff in a biofiltration/detention basin allowing filtration into the groundwater and retaining larger events to release stormwater at pre-project conditions. The Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin. The operational impact to groundwater would be **less than significant**.

Significance *Less than significant*

Mitigation No mitigation is required.

Impact HWQ-3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

Existing site drainage is dominated by Nathanson Creek, which flows between the proposed renovation area and the balance of the SVHS Campus. The channel and adjacent floodplain of Nathanson Creek would remain unaltered by Project renovations or operation. The creek setback standards (30 feet) required by the City of Sonoma also would be followed and further serve to ensure the channel and riparian corridor are protected, as the footprint of the renovation area is more than 50 feet from the top of bank.

Under existing conditions, all drainage for the renovation area is served by a stormwater system that feeds directly to Nathanson Creek at the southern edge at Denmark Street. Refer to Figure 3.8-1 (Storm System Facilities). The renovation area is located on a gently sloping (approximately 0.5%) site that largely sheets flow from north to south into shallow swales that convey runoff directly to Nathanson Creek. The shallow swales also convey run-off from adjacent properties to the north and east of the renovation area. This drainage pattern would continue to be utilized.

The stormwater system in this area would be replaced with a biofiltration/detention basin in the same footprint. The biofiltration/detention basin would improve treatment of stormwater runoff and reduce and quantity and duration of sediments

and other pollutants that may otherwise drain to Nathanson Creek compared to existing conditions.

Under existing conditions, impervious surfaces are limited to basketball courts located adjacent to Nathanson Creek, south of the track, and two pathways that bisect the site west to east. Under proposed conditions, the impervious cement for the basketball courts would be removed and relocated to the southern end of the site. In addition, impervious cement pathways would surround the track & field, both softball fields, and bisect the site due south of the baseball field and open area. Stormwater associated with all new impervious surfaces would be addressed through the Project LID features, which have been designed to comply with the BASMAA Post-Construction Manual to be consistent with the City of Sonoma's Phase II Small MS4 General Permit requirements. This includes compliance with LID design standards, including drainage management areas, numeric sizing criteria for storm water retention and treatment, site design measures to reduce runoff, stormwater treatment measures, and hydromodification guidelines. As a result, potential on- or off-site erosion or siltation due to increases in impervious surfaces would be **less than significant**.

Significance *Less than significant*

Mitigation No mitigation is required.

Impact HWQ-4: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

The majority of the renovation area is located within the 500-year floodplain, as designated by FEMA. Refer to Figure 3.8-2 (Flood Zone Map). The 100-year floodplain (Zone AE) is limited to the immediate channel vicinity and riparian zone adjacent to Nathanson Creek, which would not be altered through Project renovations. Athletic facilities would continue to be generally flat. Future site topography would not result in a significant change to the drainage of the site compared to existing conditions in a manner that would alter the flood pattern of Nathanson Creek and increase risk of on- or off-site flooding above existing conditions.

On-site flooding could inundate building structures if the flood water surfaces are at elevations higher than the design finish floor. Flood elevations are dominated less by rainfall and runoff from the site and instead controlled by the water surface elevation in adjacent Nathanson Creek. Local drainage in the renovation area would be routed away from and to pass around structures. The 100-year water surface (or elevation in the adjacent creek, as established by FEMA, would be used during design to ensure the building finish floor elevation is at least at or above the 100-year base flood elevation.

Off-site flooding could occur if the adjacent creek and upstream water surface elevations were to be increased as a result of the Project. This may be caused by blocking or restricting historical drainage flow paths, including run-on from

bordering properties, or the proposed Project improvements contributing to an increase in peak flow rate in the creek during a severe storm event. The Project would avoid these impacts by limiting new improvements to areas outside the creek setback line, which also positions the proposed Project improvements outside the limits of 100-year inundation in Nathanson Creek.

Review of available drainage resources indicate that other than Nathanson Creek itself, which passes through the Study Area (but outside the limits of the renovation area), upstream run-on occurs from the northern and eastern boundaries of the Project and is captured by shallow perimeter swales within the renovation area, generally running parallel along these boundaries. The swales then route this drainage through the playfield areas and into Nathanson Creek.

There is also a City 30-inch storm drain main passing through the Project in a public easement. This Project would not disturb the 30-inch City storm drain main. Project designs would account for all upstream run-on by providing overland and underground facilities to convey these flows to existing outfalls into Nathanson Creek.

Stormwater associated with all new impervious surfaces would be addressed through the Project LID features, which have been designed to comply with the BASMAA Post-Construction Manual to be consistent with the City of Sonoma's Phase II Small MS4 General Permit requirements. Modeling of the 100-year storm event, as it affects the proposed renovations, would be compared against a model of the 100-year storm event under existing conditions to confirm and ensure the volume of additional runoff and potential increase in peak flow from the site meets all requirements and does not increase the risk of flood related impacts. The proposed renovations, which include a built-in biofiltration/detention basin capacity at the southern (downstream) limits of the Project, would be rated to verify that peak flow and volume of runoff entering Nathanson Creek does not exceed pre-construction conditions. The majority of stormwater drainage for the renovation area would be routed on-site to the biofiltration/detention basin at the southern boundary of the site and away from adjacent streets and neighborhoods. The basin would further support flood control by storing stormwater in the basin while it infiltrates, which would help attenuate the site-specific flood peaking within Nathanson Creek. The impact to the drainage system and increased surface runoff would be **less than significant**.

Significance *Less than significant*

Mitigation No mitigation is required.

Impact HWQ-5: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Changes in impervious surfaces include the new pathways and hardscaped areas surrounding each athletic field. The existing impervious basketball courts adjacent

to Nathanson Creek would be relocated to the southern end of the renovation area and would be similar in square footage. Given new impervious Project features are scattered across the Project site and not concentrated in a single location, post-Project stormwater runoff is not expected to be significantly different than pre-Project stormwater runoff. The capacity of existing drainage facilities would be analyzed during Project design development.

According to the FEMA and the supplemental hydraulic study of Nathanson Creek found in the *City of Sonoma Storm Drain Master Plan* (2017), the 100-year storm event is confined to the creek channel as it passes through the Study Area. It is assumed that by limiting the site runoff volume and peak flow from the proposed Project to at or below pre-construction conditions, the status quo would be preserved and Nathanson Creek would continue to have sufficient capacity to convey a 100-year event within its channel through the Study Area.

Upon review of the *City of Sonoma Storm Drain Master Plan* (2017) and consultation with Sonoma Water, there are no creek capacity improvements known to be planned for Nathanson Creek.

The Project would provide a biofiltration/detention basin facility at the downstream southern end of the Project. This facility would be designed in accordance with the BASMAA Post- Construction Manual to be consistent with the City of Sonoma's Phase II Small MS4 General Permit requirements. Sufficient retention capacity would be included to address the mitigation of runoff from events up to the 100-year storm event as discussed above. The impact would be **less than significant**.

Significance *Less than significant*

Mitigation No mitigation is required.

Impact HWQ-6: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

Under existing conditions, flooding in the renovation area primarily occurs within the Nathanson Creek stream channel and adjacent floodplain surfaces. Refer to Figure 3.8-2 (Flood Zone Map). Proposed Project construction and facilities avoid the mapped FEMA 100-year flood zone adjacent to the creek. During extreme flood events, the pathways and landscaping east of the football field's home bleachers and east of the baseball fields may inundate. Pathways and landscaping are low-lying in elevation and would not impede or redirect flood flows.

During flood events, rainfall may pond on athletic fields and sheet across impervious surfaces toward planned stormwater infrastructure. The biofiltration detention area would fill and drain to Nathanson Creek, similar to the existing stormdrain network in that location.

Routing of post-Project flood flows are thus not expected to be significantly different than pre-Project flood flow routing. The Project does not include any elements that impede or redirect flood flows to Nathanson Creek, such as new

bridges or other structures within the mapped 100-year floodplain. The impact would be **less than significant**.

Significance *Less than significant*

Mitigation No mitigation is required.

Impact HWQ-7: Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Construction

The renovation area is not located near a larger body of water that may be affected by a seiche. The renovation area is also not located near the ocean and is thus outside of a tsunami zone.

The FEMA 100-year boundary is located adjacent to and outside of the renovation area. Project Design Feature 2 (Stormwater Pollution Prevention Plan) would limit the use of pollutants used during construction, such as fuels, from use in or near Nathanson Creek, wetlands, stormwater inlets, or other waters of the U.S. and State. The impact during construction would be **less than significant**.

Operation

Pollutants present on site for operational purposes may include fertilizers and fuel or lubricants for mowers, weed eaters, and other maintenance machinery. These materials would be stored in a facility outside the mapped FEMA 100-year flood boundary and would not be inundated. There would be **no impact** from operation of the Project.

Significance *Less than significant*

Mitigation No mitigation is required.

Impact HWQ-8: Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

As discussed above, the relevant water quality control plan is the San Francisco Bay RWQCB Basin Plan, which establishes thresholds for key water resource protection objectives for both surface waters and groundwater.

As described in Impact HWQ-1, HWQ-3, HWQ-4, and HWQ-5, the Project would be required to comply with ordinance requirements, permits, and adopted BMPs that are specifically designed to maintain potential water quality impacts at a less than significant level during and post-construction. This includes implementation of Project Design Feature 2, which requires development and implementation of a SWPPP that would comply with applicable water quality control measures contained in the City of Sonoma municipal storm water permit and the State Water Board's Construction General Permit. No conflicts with a water quality control plan have been identified.

As described under Impact HWQ-2, the Project is located within a high priority groundwater basin (No. 2-002-.02). Development of a sustainability plan for the basin by Sonoma Valley Groundwater Sustainability Agency remains in process. Irrigation of baseball and softball fields would utilize recycled water. Irrigation

would not directly utilize groundwater. Although the Project would result in increases in impermeable surfaces, it also would incorporate LID features that would biofiltrate stormwater and maintain runoff to pre-project conditions. The Project would have a very small effect, if any, on groundwater recharge. No conflicts with an existing or foreseeable sustainable groundwater management plan have been identified. The impact would be **less than significant**.

Significance *Less than significant*

Mitigation No mitigation is required.

3.8.6 Cumulative Impacts

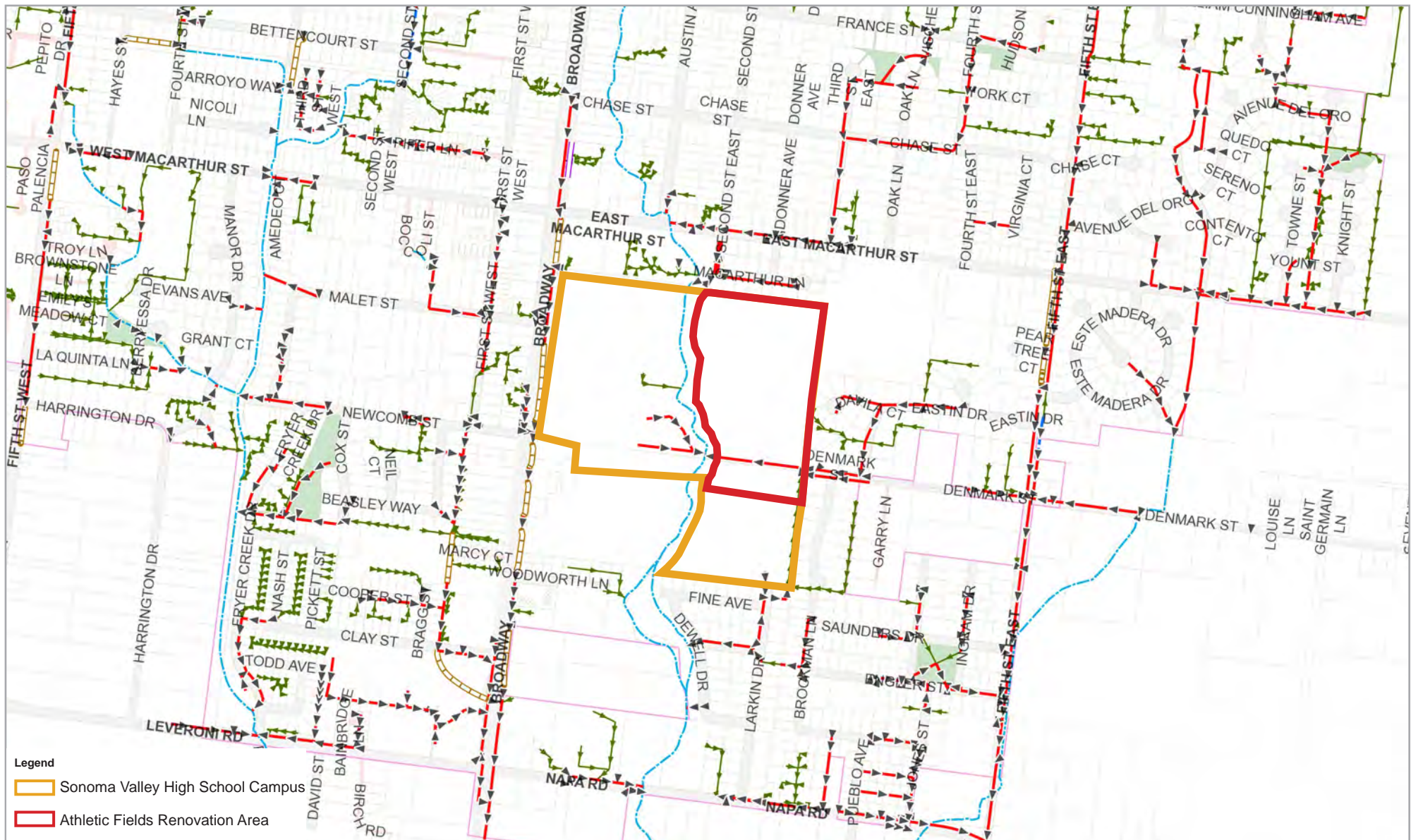
Impact HWQ-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to hydrology and water quality?

As described in Impact HWQ-1 through HWQ-8, the Project modifications would have less-than-significant impacts relative to surface water and groundwater quality, groundwater supplies, and flooding. LID stormwater treatment improvements have been incorporated into the design of the Project, and implementation of Project Design Feature 2 (Stormwater Pollution Prevention Plan) is included as part of the Project requiring compliance with applicable water quality control measures contained in the State Water Board's Construction General Permit. The cumulative projects listed in Section 3, Environmental Analysis, Table 3-1 (Projects Considered for Cumulative Impacts) that are located in the same watershed as the Project could adversely affect some of the same water bodies during construction or operation. The cumulative projects would be subject to existing federal, state, and local regulations, including the City's Storm Water LID standards and the State Water Board's Construction General Permit regulations. With implementation of the LID stormwater treatment improvements that have been incorporated into the design of the Project, and implementation of Project Design Feature 2 (Stormwater Pollution Prevention Plan), the Project contribution to cumulative impacts related to water quality during construction would not be cumulatively considerable, and therefore **less than significant**.

No drainage from the cumulative projects would run onto the site of the Project modifications. The Project would not include the construction or placement of structures within a 100-year flood hazard area, and would not utilize groundwater supplies, other than temporary pumping of groundwater in localized areas for excavation dewatering during construction. In the event that cumulative projects require similar temporary pumping of groundwater in localized areas for excavation dewatering, the cumulative impact of such dewatering on groundwater levels would be **less than significant** because such dewatering activities are temporary and have only small effects on localized groundwater levels in the immediate vicinity of pumping.

Significance *Less than Cumulatively Considerable (Less than Significant)*

Mitigation No mitigation is required.

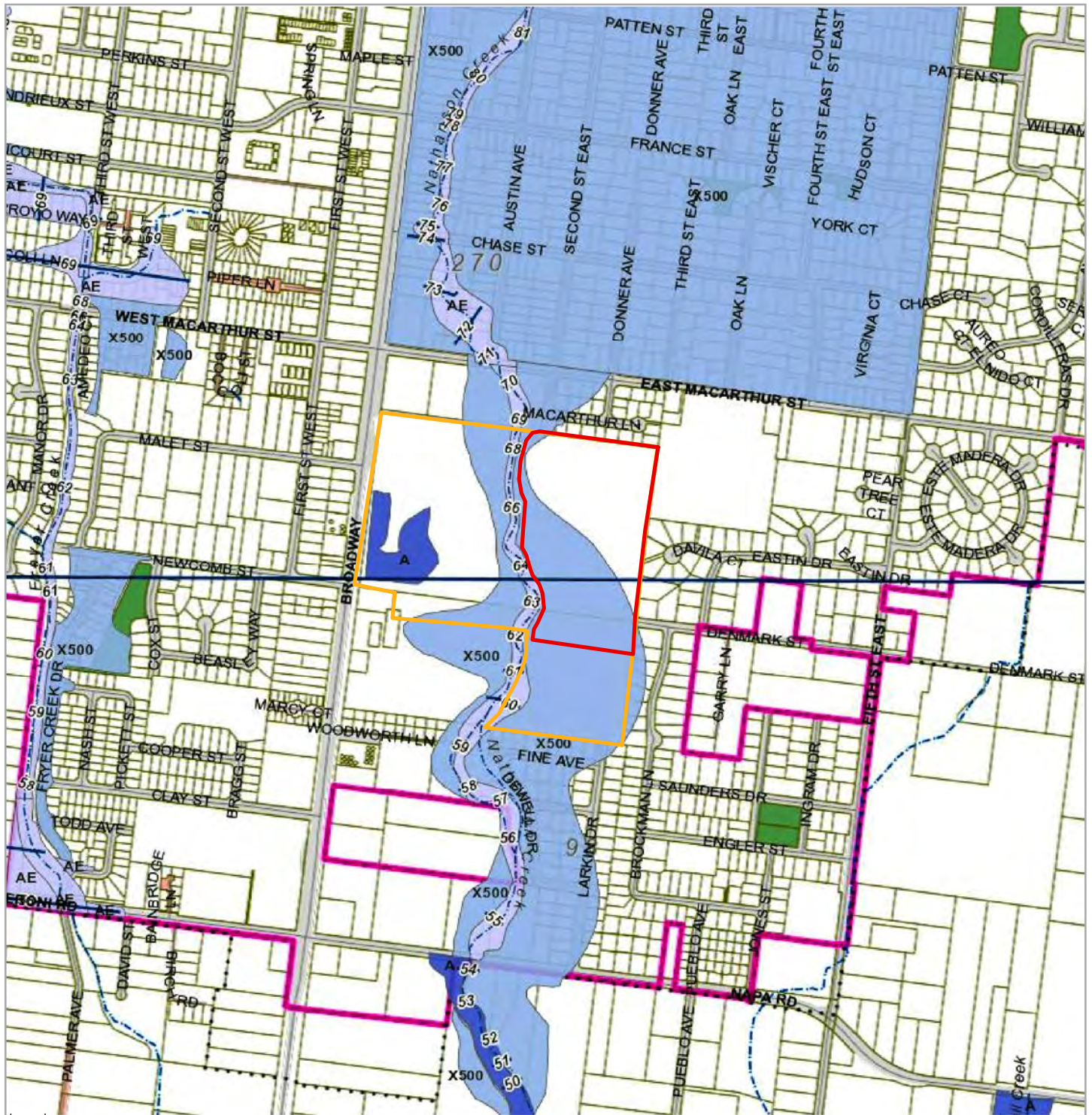


Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project

Project No. 11152127
Revision No.
Date 09/09/2019

Storm System Facilities

FIGURE 3.8-1



Legend

 Project Site

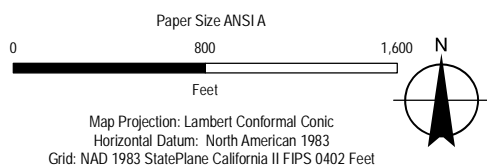
 Sonoma Valley High School Campus

Flood zones from FEMA Q3 data

Zone A - An area inundated by 1% annual chance flooding

Zone AE - FEMA 100-year flood boundary

500-year



Sonoma Valley Unified School District
Sonoma Valley High School
Athletic Fields Renovation Project

Project No. 11152127
Revision No.
Date 09/09/2019

Flood Zone Map

FIGURE 3.8-2

3.9 Land Use and Planning

This section evaluates potential environmental impacts related to land use and planning. In addition to the analysis provided in this section, the following subjects are related to land use and planning, but are evaluated in other sections of this EIR:

- Potential impacts related to visual character and quality of the Project, the site, and its surroundings are evaluated in Section 3.1 (Aesthetics).
- Potential impacts related to Project-generated noise and sensitive receptors are evaluated in Section 3.10 (Noise).
- Potential impacts related to recreational facilities are evaluated in Section 3.11 (Public Services and Recreation).
- Potential impacts related to traffic and performance of pedestrian, bicycle, and transit facilities, and designations of bicycle lanes and pedestrian corridors are evaluated in Section 3.12 (Transportation).

3.9.1 Existing Setting

Land Use Patterns and Existing Uses

The Project site encompasses the whole of the Sonoma Valley High School Campus (SVHS Campus). The SVHS Campus is located within a fairly urbanized area, mainly consisting of residential neighborhoods located off of East MacArthur Street, Broadway Street, and Napa Road. Other land uses in the vicinity include commercial uses to the north, Prestwood Elementary to the east, and Adele Harrison Middle School to the south. The existing land uses surrounding the renovation area include single-family residential neighborhoods to the north, east, and south, commercial uses to the north, Adele Harrison Middle School to the west, and Prestwood Elementary School and a YMCA to the northeast. Nathanson Creek Preserve cuts through the middle of the Project site, dividing the classroom and other municipal buildings from the majority of the existing athletic facilities. The existing athletic facilities located east of Nathanson Creek Preserve is where the main Project improvements would occur (see Figure 2-2).

Land Use Designation and Zoning

A general plan is the official policy document regarding the location of housing, business, industry, roads, parks, and other planned uses. The *City of Sonoma Municipal Code* provides the general zoning requirements for all development and new land uses. The Project site is designated “Public Facility” in the Land Use Element of the *City of Sonoma 2020 General Plan* (Sonoma 2006) and is zoned “Public Facility in the *City of Sonoma Municipal Code*. The Project site, as well as the areas to the south and northeast, are designated and zoned Public Facility (PF). Park and Sonoma Residential (SR) designated areas are located to the north, and Low Density Residential (LDR) areas are designated to the east, and southeast.

The City of Sonoma's municipal code provides project planning and design guidelines for various planning areas throughout the City. There are 13 planning areas within the City based on the time periods and types of development and land uses that characterize each area. Each planning area has their own specific standards to ensure all projects within the area are designed to enhance and maintain the most desirable characteristics unique to each area of the City. The Project site is located

partially in the Southeast Planning Area and partially in the Broadway Corridor. The Southeast Planning Area is roughly bounded on three sides by major collector streets, with Nathanson Creek forming the western boundary. The Broadway Corridor generally spans between Nathanson Creek and First Street West and extends north to Patten Street and south to Clay Street.

3.9.2 Regulatory Framework

Federal

There are no federal plans, policies, regulations, or laws related to land use and planning applicable to this project.

State

Division of the State Architect

The Division of the State Architect (DSA) provides design and construction oversight for K-12 schools, community colleges, and various other state-owned and leased facilities. DSA also develops accessibility, structural safety, and historical building codes and other standards utilized in various public and private buildings throughout the State of California. DSA has approval authority over the design of this project, to ensure occupant safety and access.

Regional and Local

The *City of Sonoma 2020 General Plan* (City of Sonoma 2006) and Municipal Code were consulted as a source of local information, conditions, and context, as well to provide rationale for certain impact determinations where other guidance was found to not exist or lacking.

City of Sonoma General Plan

The following goals and policies from the *City of Sonoma 2020 General Plan* are generally related to land use and planning for this type of project:

Goal ER-4 Respond to the recreational needs of the community

Policy 4.1 Monitor and quantify the recreational needs of the community, provide new facilities as necessary, and encourage optimal use of existing facilities.

Implementation Measure 4.1.1 Work with the County, school district, and other appropriate agencies and organizations to coordinate public use of recreation facilities and the development of new facilities.

City of Sonoma Municipal Code

The following sections of the Municipal Code are related to the Project site.

Chapter 19.22 Southeast Planning Area, Section 020 Project Planning and Design

4. Natural Features. Significant environmental amenities, including Nathanson Creek, related riparian areas, and mature oak trees, shall be preserved by being incorporated into site plan design and layout. Appropriate enhancement or protective measures shall be included in plans where determined necessary by the planning commission. See landscaping standards and design guidelines (SMC 19.40.060), and the tree preservation ordinance for specific tree preservation requirements and guidelines. Environmental features of lesser significance should be incorporated

into project site plans when appropriate if justified by the quality of the feature and its relation to the site.

The high school and middle school should be integrated with the surrounding area, not set apart. Parking, fields, lights, and buildings should be carefully placed to minimize conflicts with adjacent residences.

Chapter 19.32 Broadway Corridor, Section 020 Project Planning and Design Standards

4. Natural Features. Natural environmental amenities including creeks, streams and other drainage courses; and mature trees shall be preserved by being incorporated into site plan design and layout. Appropriate enhancement or protective measures shall be included in plans where determined necessary by the planning commission. See creek development (SMC 19.40.020) and landscaping standards and design guidelines (SMC 19.40.060), and the tree preservation ordinance for specific tree preservation requirements and guidelines.

The high school and the new middle school should be integrated with the surrounding area, not set apart. Parking, fields, lights, and buildings should be carefully placed to minimize conflicts with adjacent residences.

Chapter 19.40 General Property Development and Use Standards, Section 020 Creekside Development

D. Creekside Development Standards. The following standards shall be implemented by the applicable review authority in the review of any planning permit involving development or other activity within the creek setback, as set forth below.

1. A minimum 30-foot wide setback from the top of bank shall be required for all zoning districts, except along Sonoma Creek, where a 50-foot setback shall be required. Additional setback area may be necessary to protect sensitive environmental resources (e.g., vernal pools). Setbacks adjacent to creekside paths or open spaces shall be measured from the outside boundary of the path or open space.
2. No structure, parking access, parking space(s), paved areas, or swimming pool shall be constructed within a creek or creekside setback area, unless a use permit is obtained in compliance with SMC 19.54.040, Use permits.
3. No grading or filling, planting of exotic/nonnative or nonriparian plant species, or removal of native vegetation shall occur within a creek or creekside setback area.
4. Where drainage improvements are required within the setback area, they shall be placed in the least visible locations and naturalized through the use of river rock, earthtone concrete, and landscaping with native plant materials.
5. Within creek setback areas, the use of permeable surfaces (e.g., wood decks, sand-joined bricks, and stone walkways) shall be incorporated into a project's design, where feasible, in order to minimize off-site flows and to facilitate the absorption of water into the ground.

3.9.3 Evaluation Criteria and Significance Thresholds

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized in Table 3.9-1 (Evaluation Criteria and Significance Thresholds) are used to determine if the Project would have a significant effect related to land use and planning.

Table 3.9-1 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
LU-1: Would the project physically divide an established community?	A physical barrier to movement dividing an established community that results in a complete physical separation from the rest of the neighborhood.	CEQA Guidelines Appendix G, Checklist Item XI (a)
LU-2: Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Any such conflict with an applicable City of Sonoma goal, policy, or regulation Conflict with the City of Sonoma zoning ordinance	CEQA Guidelines Appendix G, Checklist Item XI (b) City of Sonoma General Plan City of Sonoma Zoning Code

3.9.4 Approach to Analysis

The impact analysis for land use focuses on whether implementation of the Project would conflict with applicable land use plans, policies, and regulations. This analysis was performed by evaluating Project components against the regulations and plans described under the Regulatory Framework section, and by comparing changes in land use against existing conditions.

3.9.5 Impacts and Mitigation Measures

Table 3.9-2 (Summary of Impacts – Land Use and Planning) provides a summary of potential impacts from the Project.

Table 3.9-2 Summary of Impacts – Land Use and Planning

Impact	Project Significance
LU-1: Would the project physically divide an established community?	NI
LU-2: Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	NI
LU-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to land use?	LS

Notes: NI = No Impact
 LS = Less than Significant
 LSM = Less than Significant with Mitigation

Impact LU-1: Would the project physically divide an established community?

Division of an established community typically occurs when a new physical feature, in the form of a highway or railroad, physically transects an area, thereby removing mobility and access within an established community.

The Project would renovate the existing athletic facilities within the SVHS Campus. The Project would not install a new physical feature that would transect an established community, resulting in decreased mobility or access within an established community. Therefore, **no impact** would occur.

Significance *No Impact*

Mitigation No mitigation is required.

Impact LU-2: Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The school campus is designated and zoned “Public Facility”. The existing school campus is an allowable use under both designations, therefore the proposed improvements to the recreational facilities would be consistent with both the General Plan designation and the existing zoning.

General Plan Policy 4.1 states that the recreational needs of the community should be met through the provision of necessary recreational facilities. One of the implementation measures listed was to work with school districts to develop new facilities. The Project would improve and expand the recreational facilities that the District provides to the students, as well as the community. While school events are given priority, any community group may request to use the facilities outside of school hours and events. Therefore, the Project is consistent with this General Plan policy.

The City’s Municipal Code includes various regulations for Creek setbacks, as well as design guidelines based on what Planning Area a project is in. The designated creek setback for Nathanson Creek is 30 feet beyond the top of bank. None of the proposed improvements would encroach within this designated setback (see Figure 2.2), and in fact would be set 50 feet back from the top of bank, and therefore the Project would be consistent with this regulation.

The Project site is partially located within two planning areas: the Southeast Planning Area and the Broadway Corridor. Both of these planning areas include a design guideline that states the high school must be integrated with the surrounding community. The location and design of the new athletic facilities takes into account the residential areas bordering the renovation area on two sides. For example, the placement of the football field and lighting fixtures was strategically located within the interior portion of the Project site to minimize conflicts with the residential uses, including those along MacArthur Lane, Davila Court, Eastin Drive, Denmark Street, Broackman Lane, Larkin Drive, and Fine Avenue. A full analysis of the visual impact the Project would have on the relevant Planning Areas is discussed in full in Section 3.1 (Aesthetics).

Ultimately the land use of the Project site would remain the same as existing conditions, as it would continue to provide recreational facilities. The proposed design of the new athletic facilities would be consistent with all applicable land use policies and regulations. Therefore, implementation of the improved recreational facilities on the campus would not conflict with a land use plan, policy, or regulation

adopted for the purpose of avoiding or mitigating an environmental effect. **No impact** would occur.

Significance *No Impact.*

Mitigation No mitigation is required.

3.9.6 Cumulative Impacts

Impact LU-C-1: **Would the project result in a cumulatively considerable contribution to cumulative impacts related to land use?**

For land use, the geographic scope for assessing cumulative impacts is the area immediately surrounding the Project site, since this area would have the most relevant land use impacts. Of the cumulative projects identified in Section 3.0 (Environmental Analysis), Table 3-1 (Projects Considered for Cumulative Impacts), the Sonoma Splash Project and the SVHS Facility Upgrade Projects are located on the Project site, the Caltrans Highway 12 Restriping and Improvements Project would be located partially along the western frontage of the Project site (Broadway Street), and the Fryer Creek Pedestrian Bridge Project, the Gateway Mixed Use, 1211 Broadway, and Altimira Apartments projects are located within 0.25 miles of the Project site. The other cumulative projects are located much further away from the Project site (see Figure 3-1 in Section 3.0 [Environmental Analysis], for location of cumulative projects), with a few outside the City of Sonoma.

The proposed Project was found to be consistent with the City's General Plan, Zoning Code, and Municipal Code. The Caltrans Highway 12 Restriping and Improvements Project and the Fryer Creek Pedestrian Bridge Project would improve the existing streetscape and would not conflict with any adopted land use policies. The Altimira Apartments project would provide affordable housing units, consistent with the Housing Element of the General Plan and would not conflict with any other adopted land use policies. The other projects are still under review by the City. These other projects may result in conflicts or inconsistencies with some of the objectives and policies of local land use plans. However, as discussed in Impact LU-2, the Project would not conflict with applicable land use policies, and therefore would not contribute to cumulative land use impacts related to inconsistency with land use policies. The cumulative effect of the proposed Project, in combination with other past, present, and foreseeable projects, would be **less than significant**, and the Project would not result in or contribute to any significant cumulative impacts related to land use.

Significance *Less than Significant.*

Mitigation No mitigation is required.

3.10 Noise

This section provides a description of the existing noise in the Project area and evaluates changes to those conditions that would result from implementation of the proposed Project. In addition to the analysis provided in this section, the following subjects are related to noise, but are evaluated in other sections of this EIR:

- Noise impacts to wildlife are evaluated in Section 3.3 (Biological Resources).

3.10.1 Existing Setting

Fundamentals of Acoustics

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its pitch or its loudness. Pitch is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. Loudness is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table 3.10-1 (Definitions of Acoustical Terms).

There are several methods of characterizing sound. The most common method in California is the A-weighted sound level or dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq} . The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep -- 24-hour descriptors have been developed that incorporate

artificial noise penalties added to quiet-time noise events. The Community Noise Equivalent Level (CNEL) is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 p.m. - 10:00 p.m.) and a 10 dB addition to nocturnal (10:00 p.m. - 7:00 a.m.) noise levels. The Day/Night Average Sound Level (L_{dn}) is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

Table 3.10-1 Definition of Acoustical Terms

Term	Definition
Decibel, dB	Unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, Hz	Number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dBA	Sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this section are A-weighted, unless indicated otherwise.
L01, L10, L50, L90	A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Equivalent Noise Level, Leq	Average A-weighted noise level during the measurement period.
Community Noise Equivalent Level, CNEL	Average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 p.m. to 10:00 p.m. and after addition of 10 decibels to sound levels in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, Ldn or DNL	Average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 p.m. and 7:00 a.m.
Lmax, Lmin	Maximum and minimum A-weighted noise level during the measurement period.
Ambient Noise Level	Composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Fundamentals of Groundborne Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several methods are typically used to quantify the amplitude of vibration including Peak Particle Velocity (PPV) and Root Mean Square (RMS) velocity. PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. RMS velocity is defined as the average of the squared amplitude of the signal, usually measured in decibels referenced to 1 micro-in/sec and reported in vibration decibels (VdB). PPV and VdB vibration velocity amplitudes are used in this analysis to evaluate the effect on buildings and human response to vibration.

Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. This rattling phenomenon may also be produced by loud airborne environmental noise, causing induced vibration in exterior doors and windows. In urban environments sources of groundborne vibration include construction activities, light and heavy rail transit, and heavy trucks and buses.

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generates the highest construction related groundborne vibration levels. Because of the impulsive nature of such activities, the use of the PPV descriptor has been routinely used to measure and assess groundborne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life are evaluated against different vibration limits. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 in/sec PPV. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level.

Structural damage can be classified as cosmetic only, such as minor cracking of building elements, or may threaten the integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher and there is no general consensus as to what amount of vibration may pose a threat for structural damage to the building. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

Existing Ambient Noise Environment

A noise monitoring survey was conducted from September 20th, 2018 through September 25th, 2018 to document existing noise conditions at the Project site and in the surrounding area. The noise monitoring survey included two long-term (5-day) measurements and one short-term (10-minute) measurement. Measurement locations are mapped in Appendix F, Figure 1 (Noise and Vibration Assessment), and described as follows:

- Long term (LT) measurement location LT-1 was located on the northern boundary of the renovation area, adjacent to the rear yard of the residence at 235 MacArthur Lane. Existing daytime noise at LT-1 ranges from 44 to 57 dBA Leq, depending on the day of the week.

Existing nighttime noise at LT-1 ranges from 35 to 52 dBA Leq, also depending on the day of the week.

- Measurement Location LT-2 is located on the eastern boundary of the renovation area, adjacent to the rear yard of the residence at 300 Denmark Street. Existing daytime noise at LT-2 ranges from 44 to 60 dBA Leq, depending on the day of the week. Existing nighttime noise at LT-2 ranges from 35 to 49 dBA Leq, also depending on the day of the week.
- Short term (ST) site ST-1 was situated in front of the residence at 231 East MacArthur Street, approximately 300 feet north of the Project site. The primary noise source at ST-1 was vehicular traffic traveling along East MacArthur Street. The 10-minute average equivalent noise level at this location was 61 dBA Leq and maximum instantaneous noise levels ranged from 69 to 78 dBA Lmax.

Existing ambient base noise levels for the two long-term measurement locations are summarized below in Table 3.10-2 (Existing Ambient Noise Levels).

Table 3.10-2 Existing Ambient Base Noise Levels

Measurement Location	Period	Day	Night
LT-1	Weekday	50 to 57 dBA Leq	36 to 52 dBA Leq
	Saturday	44 to 56 dBA Leq	35 to 47 dBA Leq
	Sunday	47 to 53 dBA Leq	37 to 46 dBA Leq
	Day/Night Average	51 to 56 dBA Ldn	
LT-2	Weekday	47 to 53 dBA Leq	35 to 49 dBA Leq
	Saturday	44 to 60 dBA Leq	35 to 42 dBA Leq
	Sunday	44 to 60 dBA Leq	36 to 42 dBA Leq
	Day/Night Average	50 to 53 dBA Ldn	

Source: Illingworth and Rodkin 2019

3.10.2 Regulatory Framework

Federal

Federal Noise Control Act of 1972

The basic motivating legislation for noise control in the U.S. was provided by the Federal Noise Control Act (1972), which addressed the issue of noise as a threat to human health and welfare, particularly in urban areas. In response to the Noise Control Act, the U.S. Environmental Protection Agency (EPA) published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA 1974). In summary, EPA findings were that sleep, speech, and other types of essential activity interference could be avoided in residential areas if the L_{dn} did not exceed 55 dBA outdoors and 45 dBA indoors. The EPA intent was not that these findings necessarily be considered as mandatory standards, criteria, or regulatory goals, but

as advisory exposure levels below which there is no reason to suspect that the general population would be at risk from any of the identified health or welfare effects of noise. The EPA Levels report also identified 5 dBA as an adequate margin of safety before an increase in noise level would produce a significant increase in the severity of community reaction (i.e., increased complaint frequency, annoyance percentages, etc.) provided that the existing baseline noise exposure did not exceed 55 dBA L_{dn} .

Table 3.10-3 provides examples of protective noise levels recommended by the EPA. The Occupational Safety and Health Administration (OSHA) regulations protect the hearing of workers exposed to occupational noise.

Table 3.10-3 Recommended Noise Levels for the Protection of Public Health and Welfare

Effect	Level	Area
Hearing Loss	$L_{eq(24)} > 70$ dBA	All areas
Outdoor Activity Interference and Annoyance	$L_{dn} > 55$ dBA	Outdoors in residential areas and farms and other areas where people spend widely varying amount of time and other places in which quiet is a basis for use
	$L_{eq(24)} > 55$ dBA	Outdoor areas where people spend limited amounts of time, such as school yards and playgrounds
Indoor Activity Interference and Annoyance	$L_{dn} > 45$ dBA	Indoor residential areas
	$L_{eq(24)} > 45$ dBA	Other indoor areas with human activities, such as schools

Source: EPA 1974:

Notes: dBA = A-weighted decibels
 L_{dn} = day-night noise level
 $L_{eq(24)}$ = energy-equivalent noise level over a 24-hour period.

State

California Department of Transportation – Construction Vibration

Table 3.10-4 (Reaction of People and Damage to Buildings from Vibration), displays the reactions of people and the effects on buildings that continuous or frequent intermittent vibration levels produce. Caltrans recommends a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards. A conservative vibration limit of 0.25 to 0.30 in/sec PPV has been used for older buildings that are found to be structurally sound but cosmetic damage to plaster ceilings or walls is a major concern. For historic buildings or buildings that are documented to be structurally weakened, a conservative limit of 0.08 in/sec PPV is often used to provide the highest level of protection. All of these limits have been used successfully and compliance to these limits has not been known to result in appreciable structural damage. All vibration limits referred to herein apply on the ground level and take into account the response of structural elements (i.e. walls and floors) to groundborne excitation.

Table 3.10-4 Reaction of People and Damage to Buildings from Vibration

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.01	Barely perceptible	No effect
0.04	Distinctly perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible to strongly perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Threshold at which there is a risk of damage to fragile buildings with no risk of damage to most buildings
0.25	Strongly perceptible to severe	Threshold at which there is a risk of damage to historic and some old buildings.
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential structures
0.5	Severe - Vibrations considered unpleasant	Threshold at which there is a risk of damage to new residential and modern commercial/industrial structures

Source: Caltrans 2013

Note: PPV =peak particle velocity

Regional and Local

The *City of Sonoma 2020 General Plan* and Municipal Code were consulted as a source of local information, conditions, and context, as well to provide rationale for certain impact determinations where other guidance was found to not exist or lacking.

City of Sonoma General Plan Goals and Policies

The Noise Element of the City of Sonoma's General Plan identifies policies that are intended to guide the development of new projects with regard to exposure to or generation of noise. These guidelines are used to assess the compatibility of a land use relative to the noise environment where the land use is proposed.

Goal PS-1 Achieve noise compatibility between existing and new development to preserve the quiet atmosphere of Sonoma and quality of life.

Policy 1.1 Apply the following standards for maximum Ldn levels to citywide development: 60 Ldn for outdoor environments around all residential developments and outdoor public facilities (e.g. parks).

Policy 1.5 Encourage all development to minimize noise intrusions through project design.

Policy 1.6 Minimize noise impacts of vehicle idling.

City of Sonoma Municipal Code

Chapter 9.56.070 of the City's Municipal Code exempts athletic and recreational events and other activities performed on public parks, property owned by the District, and other properties zoned as "Public" from the provisions of the City of Sonoma Noise Ordinance (Chapter 9.56 Noise). Under Section 9.56.050, construction, alteration, demolition, maintenance of construction equipment, deliveries of materials or equipment, or repair activities otherwise allowed under applicable law are allowed between 8:00 a.m. and 6:00 p.m., Monday through Friday, 9:00 a.m. and 6:00 p.m. on

Saturday, and 10:00 a.m. and 6:00 p.m. on Sundays and holidays. The code limits the construction noise level at any point outside of the property plane of the Project to not exceed 90 dBA.

3.10.3 Evaluation Criteria and Significance Thresholds

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized in Table 3.10-5 (Evaluation Criteria and Significance Thresholds) are used to determine if the Project would have a significant effect related to noise.

Table 3.10-5 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
NOI-1: Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<p>Construction noise levels exceeding 90 dBA outside of the project site</p> <p>Operational noise levels exceeding 60 dBA Ldn at adjacent residences</p> <p>Permanent noise level increase of 3 dBA Ldn or greater in a residential area where the resulting noise environment would exceed or continue to exceed 60 dBA Ldn</p>	<p>CEQA Guidelines Appendix G, Checklist Item XIII (a)</p> <p>City of Sonoma General Plan Noise Element Goal PS-1</p> <p>City of Sonoma Municipal Code Chapter 9.56.070</p> <p>Standard Industry Practice</p>
NOI-2: Would the project result in generation of excessive groundborne vibration or noise levels?	Vibration levels exceeding 0.3 in/sec PPV at adjacent residences	<p>CEQA Guidelines Appendix G, Checklist Item XIII (b)</p> <p>Caltrans Transportation and Construction Vibration Guidance Manual</p>
NOI-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	Location of project in area exposed to effects of airport noise	CEQA Guidelines Appendix G, Checklist Item XIII (c)

3.10.4 Approach to Analysis

The noise impact evaluation is substantively based on the *Sonoma Valley High School Athletic Fields Renovation Noise and Vibration Assessment* (Illingworth & Rodkin 2019), included as Appendix F, Noise and Vibration Assessment). The noise and vibration impact assessment evaluates noise and vibration impacts associated with construction and operation of the Project. The assessment of potential noise impacts was conducted using the anticipated noise that would be produced during construction and operation of the Project as compared to noise level thresholds established by the regulatory criteria. The assessment of vibration impacts was conducted using information on anticipated vibration levels generated during the construction of the Project.

3.10.5 Impacts and Mitigation Measures

Table 3.10-6 (Summary of Impacts – Noise) provides a summary of potential impacts from the Project.

Table 3.10-6 Summary of Impacts – Noise

Impact	Project Significance
NOI-1: Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	LS
NOI-2: Would the project result in generation of excessive groundborne vibration or noise levels?	LS
NOI-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	LS
NOI-C-1: Would the project plus cumulative projects result in a cumulatively considerable contribution to cumulative impacts related to noise?	LS

Notes: NI = No Impact

LS = Less than Significant

LSM = Less than Significant with Mitigation

Impact NOI-1: Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction

Construction activities would be carried out in stages. During each stage of construction, there would be a different mix of equipment operating, and noise levels would vary by stage and vary within stages, based on the amount of equipment in operation and the location at which the equipment is operating.

The Project includes demolition and removal of the existing athletic fields as well as the existing basketball courts. Construction would also require mass grading within the renovation area and installation of the new facilities. Two improvements would be located outside of the renovation area: 1) utility connections at Denmark Street; and 2) six ADA compliant parking spaces that would be added south of the existing tennis courts and solar panels west of Nathanson Creek. Construction of the Project is anticipated to take approximately 12 to 14 months. Construction activities would be limited to the hours of 8:00 a.m. to 6:00 p.m. Monday through Friday, 9:00 a.m. to 6:00 p.m. on Saturday, and 10:00 a.m. to 6:00 p.m. on Sundays and holidays, which would be consistent with allowable construction hours identified in Section 9.56.050 of the City of Sonoma Municipal Code. This schedule has been developed so that the bulk of construction activities, including demolition and grading, could occur through the summer months to minimize conflict with school activities.

Project construction equipment is anticipated to include backhoes, forklifts, pick-up trucks, concrete mixer trucks, front-end loaders, rollers, dump trucks, graders, scrapers, and excavators. Most of the heavy equipment would be used during the first two to three months of construction, during site preparation and grading. The concrete mixer and pick-up trucks would be used throughout construction, including bleacher construction, track installation, and paving. Pile driving would not be used as a method of construction.

Noise sensitive uses surrounding the primary construction site include residences to the north, Prestwood Elementary to the northeast, residences to the east, SVHS Campus agricultural farm to the south, and SVHS classrooms, Nathanson Creek Preserve and associated pedestrian trail to the west. The proposed parking spaces would be surrounded by existing SVHS uses. Utility connections would be located a short distance down Denmark Street, adjacent to residences. Construction for the Denmark Street utility connection would be limited in duration to a period of a few weeks.

Construction activities would be required to comply with the City's allowable construction hours. Of the construction equipment anticipated to be used for the Project, only a concrete/industrial saw used within 50 feet of shared property lines would potentially exceed the City's 90 dBA noise limit. However, use of the concrete/industrial saw is not anticipated to occur within 50 feet of shared property lines, given that existing paved areas to be demolished are located primarily in the central portions of the site (existing basketball courts) and all existing paved areas are 60 feet or greater from shared property lines. Therefore, noise levels from construction would be anticipated to comply with the City's 90 dBA construction noise threshold. In addition, Project Design Feature 3 (Construction Noise Reduction Actions), would include implementation of noise reduction actions during construction. The construction-related impact would be **less than significant**.

Operation

The Project would renovate and reorganize the existing track & field, softball and baseball fields, and basketball courts at the SVHS Campus. Following construction, the majority of practices and events that are currently held off campus would be moved to the SVHS Campus. This would include Junior Varsity (JV) Soccer Games, Varsity Soccer games and practices, JV and Varsity Football Games, JV Baseball practice and games, Lacrosse practice and games, and senior graduation. The Project is also anticipated to result in an additional on-campus track competition each year. The remaining events would not change in frequency from what is currently occurring on-campus; however, the location of these events would shift as the fields are redeveloped and moved.

Football Games and Graduation

Events with the highest attendance would be the regular season varsity football games held on six Friday evenings from August through November, including the homecoming game, and graduation. The typical Friday evening football schedule has a JV game starting at 4:30 p.m., with the varsity game kick-off at 7:00 or 7:30

p.m. Unless a varsity game goes into overtime, the games generally end at approximately 9:30 p.m., with cleanup completed by 11:00 p.m.

The typical number of persons in attendance at football games is expected to be 500 for a JV game and 1,300 for a Varsity game. It is estimated that full capacity (2,500) would occur during two special events: homecoming and graduation. Homecoming occurs once in the fall and graduation occurs once at the close of the school year.

The nearest noise sensitive receptors include residences located about 480 feet to the east and 700 feet to the north of the center of the field. Existing ambient noise levels during the period of proposed Friday evening Varsity games were measured to be about 50 dBA Leq at residences to the east and 56 dBA Leq at residences to the north. Existing day-night average ambient noise levels on Fridays are 52 dBA Ldn at residences to the east and 56 dBA Ldn at residences to the north.

Table 3.10-7 (Ldn Resulting from Football Events) shows the calculated Ldn noise levels resulting from continuous football and special events occurring between the hours of 4:30 p.m. and 9:30 p.m., including homecoming and graduation. These noise levels would not exceed the City's acceptable exterior noise level criteria of 60 dBA Ldn for outdoor public facilities. Therefore, the impact would be **less than significant**.

Table 3.10-7 Ldn Resulting from Football Events

Number of Spectators	Residences to East (480 feet)	Residences to North (700 feet)
500 (Typical JV)	52 dBA Ldn	49 dBA Ldn
1,300 (Capacity)	56 dBA Ldn	53 dBA Ldn
2,500 (Homecoming)	59 dBA Ldn	56 dBA Ldn

Source: Illingworth & Rodkin 2019

Notes: dBA = A-weighted decibels
L_{dn} = day-night noise level

Soccer, Lacrosse, and Track & Field Activities

In comparison to football games, attendance for other athletic events would be considerably smaller, ranging on average from 12 to 80 attendees. These events happen throughout the school year, many of which already occur at the athletic fields. Track meets, soccer, and lacrosse games would generate noise levels well below those resulting from football games and would not exceed the City's acceptable exterior noise level criteria of 60 dBA Ldn for outdoor public facilities. Therefore, the impact would be **less than significant**.

PA System

The PA system would be used during football games, track & field events, and graduation. The District has specified that the PA system be limited to a maximum sound pressure level of 55 dBA or less, measured at the property line. Speakers would be field aimed and adjusted for full coverage of bleachers and the field. Equipment would be adjusted and tuned for optimal sound performance and

reduction of unwanted sound toward residences to the extent possible. Therefore, noise levels from the PA would be below those generated by spectator cheering and maximum noise levels generated by other ambient noise sources, such as local traffic and community activity. The impact would be **less than significant**.

Reconfigured Softball and Baseball Fields

The softball and baseball fields would be reconfigured along the northern and eastern boundary of the renovation area. This would include the renovation of the existing softball field adjacent to the Denmark pedestrian access point, construction of a second softball field immediately north of the renovated field, and construction of one JV/Varsity baseball field and an open recreation field along the northern extent of the renovation area. No lights would be installed around the baseball field, softball fields, or the open recreational field.

Many of the softball and baseball events already occur at the athletic fields. Frosh baseball games and practices would be moved from the existing baseball field to the proposed JV/Varsity baseball field to the north. JV baseball games and practices would be moved from off-site to the new proposed field. Varsity baseball games and practices would continue to occur off-campus at Arnold Field. The Varsity softball field would be moved north of its existing configuration and reconfigured with the infield located away from residences to the east. The JV softball field would be moved to the east of its existing location.

Noise levels at the baseball and softball athletic fields would not be as prominent as the noise levels generated by football games due to much lower attendance (typically 15 to 40 attendees). Based on attended measurements conducted during similar high school sporting events with 100 to 200 spectators, softball and baseball games can generate noise levels of up to about 57 dBA Leq at a distance of 100 feet from the infield. Maximum noise levels of about 65 dBA Lmax at 100 feet typically result from balls being hit and shouting from players and spectators.

Residences are located as close as about 260 feet north of the center of the JV baseball field infield, 120 feet east of the center of the Varsity softball field infield and 50 feet east of the center of the JV softball field infield. Residences to the east currently adjoin the existing Varsity softball field and soccer field and residences to the north currently adjoin the existing track. Noise levels generated with the proposed configuration would be similar to those occurring with the existing field activities. At a distance of 260 feet, JV baseball games would be anticipated to generate noise levels up to 49 dBA Leq. Given the attendance anticipated at softball games and practices (typically 15 to 40 attendees), noise levels are anticipated to be below 55 dBA Leq at residences adjoining these fields. These noise levels would not exceed the City's acceptable exterior noise level criteria of 60 dBA Ldn for outdoor public facilities. Therefore, the impact would be **less than significant**.

Noise Increases from Project Traffic

Traffic data was reviewed to calculate potential traffic noise level increases attributable to the Project along roadways serving the site. Roadways evaluated in the analysis included Broadway, Napa Street, 5th Street West, East MacArthur

Street, Newcomb Street, and Napa Road. Three project traffic scenarios were evaluated: 1) a midweek event with 60 attendees, representing sports practices, 2) a worst-case 1,500-person event, representing typical Friday evening football games (1,000 attendees) with an overlapping second event (500 attendees), and 3) 2,500-person events representing either a highly attended football game, such as Homecoming, or a graduation ceremony. Roadway link traffic volumes under the existing plus Project scenario were compared to existing conditions to calculate the traffic noise increase attributable to the Project.

The midweek sports practices with 60 attendees resulted in traffic noise increases of less than 1 dBA Leq during the midweek PM peak hour. The overlapping Friday evening football game with 1,500 attendees resulted in traffic noise increases up to 1 dBA Leq during the Friday PM peak hour, and the highly attended 2,500-attendee event resulted in traffic noise increases up to 2 dBA Leq during the Friday PM peak hour. Given that event traffic would be isolated to time periods surrounding the event, the daily average noise level increases would be even lower. Therefore, traffic noise increases resulting from the Project would not increase ambient traffic noise levels by 3 dBA Ldn or more at noise sensitive receptors in the vicinity. The impact would be **less than significant**.

Significance *Less than significant*

Mitigation No mitigation is required.

Impact NOI-2: Would the project result in generation of excessive groundborne vibration or noise levels?

Project construction equipment is anticipated to include backhoes, forklifts, pick-up trucks, concrete mixer trucks, front-end loaders, rollers, dump trucks, graders, scrapers, and excavators. Pile driving is not anticipated as a method of construction. Vibration levels generated by proposed activities and equipment would be below the 0.3 in/sec PPV criteria when construction occurs at distances of 20 feet or greater from sensitive structures. Vibration levels generated by construction activities would be perceptible indoors when construction is located adjacent to structures and secondary vibration, such as a slight rattling of windows or doors, may be considered annoying at times. However, architectural damage to normal residential structures would not be anticipated and vibration levels would be below those anticipated to cause structural damage. In addition, construction would occur during daytime hours only, thus reducing the potential for residential annoyance during typical periods of rest or sleep (Illingworth & Rodkin, Inc. 2019). The construction-related impact would be **less than significant**. Operational activities resulting in vibration would not occur. Therefore, **no impact** from operation, related to vibration, would occur.

Significance *Less than significant*

Mitigation No mitigation is required.

Impact NOI-3: For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The Project site is located approximately 1.7 miles northwest of Sonoma Skypark, which is the closest airport/airstrip to the site. The Project site is located outside of the Airport Land Use Commission (ALUC) referral area and the Sonoma Skypark 55 dBA CNEL noise contour. Therefore, aircraft associated with Sonoma Skypark would not expose persons to excessive airport-related noise. The impact would be **less than significant**.

Significance *Less than significant*

Mitigation No mitigation is required.

3.10.6 Cumulative Impacts

Impact NOI-C-1: Would the project plus cumulative projects result in a cumulatively considerable contribution to cumulative impacts related to noise?

The geographic context for cumulative noise and vibration impacts would be construction of similar projects within distance of the Project site to be perceptible.

As noted in Table 3-1 (Projects Considered for the Cumulative Analysis) and Figure 3-1, there are no cumulative projects immediately adjacent to the Project site. The three closest projects, and whose construction could overlap with the Project, are: Altamira Apartments located approximately 1,300 feet to the south; Gateway Project located approximately 1,350 feet to the north; and the Caltrans Highway 12 Restriping and Improvements Project along Broadway approximately 800 feet to the west. Given the distance and intervening terrain, while these cumulative projects may be perceptible at the Project site, they would not collectively increase the noise levels by more than 3 dBA Ldn. Only in the absence of the Project-related construction noise would the construction noise related to the cumulative projects be perceptible. For example, noise typically attenuates 6 dBA per doubling of distance. The closest construction project, Caltrans Highway 12 Restriping and Improvements Project, is approximately 800 feet to the west. Noise levels for a typical public works roadway project averages from 78 to 88 dBA at 50 feet (see Appendix F). At 100 feet it would reduce to 82, at 200 feet 76, at 400 feet 70, and at 800 feet it would be 64 dBA. This would be less than the projected construction noise levels at the Project site. Therefore, the Project's contribution to the cumulative temporary construction noise impact would be **less than significant**.

None of the cumulative projects identified in Table 3-1 are close enough to the Project site to contribute to a permanent cumulative increase in noise or vibration levels in the impact areas considered in this section including NOI-1 and NOI-2. In addition, the closest projects are either infrastructure projects that have no operational noise, or they are residences which do not typically generate significant noise during operation. Therefore, the Project's contribution to the cumulative permanent impact would be **less than significant**.

Significance	<i>Less than Significant</i>
Mitigation	No mitigation is required.

3.11 Public Services and Recreation

This section provides a description of public services and existing recreation facilities in the Project area and evaluates changes to those conditions that would result from implementation of the proposed Project. Public services discussed in this section include fire protection, law enforcement, schools, parks, and other public facilities. In addition to the analysis provided in this section, the following subjects are related to public services and recreation, but are evaluated in other sections of this EIR:

- Potential impacts to bicycle and pedestrian trails and emergency access are evaluated in Section 3.12 (Transportation).

3.11.1 Existing Setting

Fire Protection and Emergency Services

The Sonoma Valley Fire and Rescue Authority (SVFRA) provides fire, rescue, and emergency medical services to the City of Sonoma and the communities of Agua Caliente, Boyes Hot Springs, Diamond-A, El Verano, Feters Hot Springs, Temelec, and Seven Flags. The SVFRA was created in 2002 through a Joint Powers Agreement between the City of Sonoma and Valley of the Moon Fire Protection District in order to eliminate duplication of equipment and control costs while providing a higher level of fire and rescue services to the communities (City of Sonoma 2019c).

SVFRA facilities include three staffed fire stations and one volunteer-staffed station, an administrative office, and a maintenance facility. The nearest fire station to the Project site is the Al Mazza Fire Station located at 630 Second Street West, approximately 0.6 miles to the northwest. The five companies staffed by the SFVRA include three Paramedic Engine Companies and two advanced life support (ALS) ambulances. Additional equipment includes a Ladder Truck, Rescue, Water Tender, and three Fire Engines. SVFRA currently consists of 39 full-time employees, 1 part-time employee, and a supplemental group of 41 volunteer firefighters. Employees are trained as paramedics and emergency medical technicians and all staffed engines and ambulances are ALS equipped and staffed with at least one paramedic.

The SVFRA covers an area of 31.5 square miles with a resident population of approximately 33,000 and also provides ambulance service to the greater Sonoma Valley. In addition, the SVFRA includes a Fire Prevention division which is responsible for managing the Life-Safety Inspection Program as well as ambulance billing services (SVFRA 2019).

Police Services

Police services in the City of Sonoma are provided by the Sonoma Police Department. Since 2004, the City of Sonoma began contracting with the Sonoma County Sheriff's Department to provide the level of law enforcement services needed by the community. The police department has a total 16.5 employees, made up of 1 chief, 2 sergeants, 10 patrol deputies, 2 community service officers, and 1.5 administrative staff. In addition to paid staff, the department also benefits from volunteers through the Sonoma County Sheriff's Department's Volunteers in Policing (V.I.P.) program (City of Sonoma 2019d).

The Sonoma Police Department includes a K9 unit and also employs a School Resource Officer to promote student safety within the Sonoma Unified School District. Through a 2005 grant from the

Office of Traffic Safety, the Sonoma Police Department employs a full-time traffic safety officer to monitor and enforce traffic laws as well as serve as the department liaison to the Traffic Safety Committee (City of Sonoma 2019d).

Schools

The City of Sonoma is served by the Sonoma Valley Unified School District. The District serves 11 schools, three of which are located within the Project vicinity including Sonoma Valley High School (SVHS), Prestwood Elementary School, and Adele Harrison Middle School. The District serves approximately 4,800 students in total. In the 2018-19 school year, the SVHS Campus had an enrollment of 1,274 students.

Parks and Recreational Facilities

The City of Sonoma, Sonoma County Regional Parks, and the California Department of Parks and Recreation each operate and maintain parks in the Project area. As shown in Table 3.11-1 (Recreational Facilities in Project Vicinity), 12 parks and recreational facilities are located within approximately one mile of the Project site.

Table 3.11-1 Recreational Facilities in Project Vicinity

Recreation Facility	Acreage (approximate)
Nathanson Creek Park	2.9
Depot Park	4.6
Arnold Field	3.6
Field of Dreams	10.2
Teeter Field	0.9
Hughes Field	1.2
Olson Park	2.0
Pinelli Park	0.5
Armstrong Park	1.5
Eraldi Park	3.5
Hertenstein Park	0.8
Jean K.T. Carter Park	0.35

Several additional historic parks, open space preserves, and regional parks are also located in the vicinity of the Project site, such as the Mission San Francisco Solano, Sonoma State Park, Sonoma Plaza, Montini Open Space Preserve, and Maxwell Farms Regional Park.

3.11.2 Regulatory Framework

Federal

There are no federal regulations that are directly applicable to the proposed project regarding public services and recreation.

State

Office of Emergency Services

Title 19, Chapters 1 through 6, of the California Code of Regulations establishes regulations related to emergency response and preparedness under the Office of Emergency Services (OES). The OES serves as the lead State agency for emergency management. The OES coordinates the State response to major emergencies in support of local government. The primary responsibility for emergency management resides with local government. Local jurisdictions first use their own resources and, as they are exhausted, obtain more from neighboring cities and special districts, the county in which they are located, and other counties throughout the State through the Statewide Mutual Aid System. In California, the Standardized Emergency Management System provides the mechanism by which local government requests assistance.

California Occupational Safety and Health Administration

In accordance with California Code of Regulations, Title 8 Sections 1270 “Fire Prevention and Fire Equipment,” the California Occupational Safety and Health Administration has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance and use of all firefighting and emergency medical equipment.

California Fire Code

The California Fire Code (CFC) contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The CFC contains specialized technical regulations related to fire and life safety.

California Health and Safety Code

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, which includes regulations for building standards (as set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers, smoke alarms, high-rise building, childcare facility standards, and fire suppression training.

California State Assembly Bill 2926 – School Facilities Act of 1996

In 1986, Assembly Bill 2926 was enacted by the state of California authorizing entities to levy statutory fees on new residential and commercial/industrial development to pay for school facilities. AB 2926, entitled the “School Facilities Act of 1986,” was expanded and revised in 1987 through the passage of AB 1600, which added Section 66000 et seq. of the Government Code.

Regional and Local

City of Sonoma Emergency Operations Plan

The City of Sonoma Emergency Operations Plan (EOP) establishes policies and procedures to ensure the effective management of emergency operations within the City of Sonoma (City of

Sonoma 2015). This includes effective management of response forces and resources in preparing for and responding to situations associated with natural disasters, terrorist attacks, technological incidents and national security emergencies. The EOP includes procedures for evacuation and/or sheltering of the population as situations warrant, however, the EOP does not formally designate evacuation routes/areas or specific care and shelter locations. The Project site is located along Highway 12, which is the primary transportation corridor through the City of Sonoma. Other roadways in the Project vicinity are two lane roads or surface streets.

City of Sonoma General Plan

The *City of Sonoma 2020 General Plan* was consulted as a source of local information, conditions, and context, as well to provide rationale for certain impact determinations where other guidance was found to not exist or lacking.

The following goals and policies from the *City of Sonoma 2020 General Plan* are generally related to public services and recreational needs and applicable to the Project.

Goal PS- 2 Assure that essential emergency and public services will function effectively in a disaster.

Policy 2.1 Use the Standardized Emergency Management System as the basis for emergency planning.

Policy 2.3 Coordinate emergency planning with appropriate jurisdictions, agencies, and groups.

Goal ER-4 Respond to the recreational needs of the community.

Policy 4.1 Monitor and quantify the recreational needs of the community, provide new facilities as necessary, and encourage optimal use of existing facilities

Policy 4.2 Provide a minimum of 5 acres of open space and parkland per 1,000 city residents.

Policy 4.3 Link neighbourhoods and recreational, cultural, educational, civic, and commercial destinations with bicycle and pedestrian facilities.

3.11.3 Evaluation Criteria and Significance Thresholds

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized in Table 3.11-2 (Evaluation Criteria and Significance Thresholds) are used to determine if the Project would have a significant effect related to public services and recreation.

Table 3.11-2 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
PSR-1: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: fire protection, police protection, schools, parks, and/or other public facilities?	<p>Inadequate police and fire service capabilities to serve the project, resulting in the need for a new or expanded fire or police station</p> <p>Generate population or job growth that substantially affects the service ratio of public services</p> <p>Inadequate schools to serve the project, resulting in the need for development of a new school</p> <p>Inadequate City parkland to meet citywide standard</p>	CEQA Guidelines Appendix G, Checklist Item XV (a)
PSR-2: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated, or include recreational facilities or require the construction or expansion of recreation facilities which might have an adverse physical effect on the environment?	<p>Increased demand and use of existing parks or other recreational facilities that results in substantial physical deterioration</p> <p>Include recreational facilities that generate a significant environmental effect or generate population or job growth that requires additional recreational facilities</p>	CEQA Guidelines Appendix G, Checklist Item XVI (a)(b)

3.11.4 Approach to Analysis

Potential impacts to public services and recreational facilities are evaluated for both construction and operational activities. The evaluation considers whether the proposed project would affect the communities' existing public services and recreation facilities, including fire and police protection, parkland, and educational services, as indicated by the thresholds above.

3.11.5 Impacts and Mitigation Measures

Table 3.11-3 (Summary of Impacts – Public services and recreation) provides a summary of potential impacts from the Project.

Table 3.11-3 Summary of Impacts – Public Services and Recreation

Impact	Project Significance
PSR-1: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: fire protection, police protection, schools, parks, and/or other public facilities?	NI
PSR-2: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated, or include recreational facilities or require the construction or expansion of recreation facilities which might have an adverse physical effect on the environment?	LS
PSR-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to public services and recreational resources?	LS

Notes: NI = No Impact

LS = Less than Significant

LSM = Less than Significant with Mitigation

Impact PSR-1: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: fire protection, police protection, schools, and/or other public facilities?

Implementation of the Project would not increase student capacity at SVHS or directly or indirectly induce substantial population growth. The Project would allow the majority of existing SVHS team sports activities and SVHS special events that currently occur off-site to occur on the SVHS Campus, thereby reducing the demand at Adele Harrison Middle School, Arnold Field, and Field of Dreams. Project implementation would not require additional police services for traffic control at the SVHS Campus. The Project would include a new 20-foot wide emergency vehicle access pathway that would provide first responder access to the renovated facilities, along with new fire hydrants and adequate fire water flows. Adequate turning path at the end of the emergency access pathway is provided to allow emergency vehicles to quickly maneuver and egress. The Project would not necessitate or facilitate construction of new fire or police protection facilities or other school or public facilities in order to maintain acceptable service ratios or response times. Therefore, there would be **no impact** as no substantial adverse physical impacts associated with construction of such facilities would occur.

Significance *No Impact*

Mitigation No mitigation is required.

Impact PSR-2: Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated, or include

recreational facilities or require the construction or expansion of recreation facilities which might have an adverse physical effect on the environment?

Construction

Construction of the Project is anticipated to begin in May 2020 and would take approximately 12 to 14 months. During construction, several athletic events that are currently held at the SVHS Campus would need to be relocated to off-site event locations. Such relocations are anticipated to occur over the course of one sports season. Scheduling of temporary relocations would be finalized at a future date once construction schedules and future facility and operational event schedules are more accurately known. For the purposes of this analysis, such relocations are anticipated to include the following:

- Track & field practice and league events would be temporarily moved to Altimira Middle School
- JV soccer practice would likely be temporarily moved to Adele Harrison Middle School.
- JV and Varsity football practice would likely be moved to Arnold Field.
- Freshman baseball practice and games and JV and Varsity softball practice and games would likely be moved to Field of Dreams or Arnold Field.
- Non-SVHS events that are currently held on the SVHS Campus would be temporarily relocated to either Adele Middle School, Altimira Middle School, Prestwood Elementary School, Arnold Field, Field of Dreams, or possibly Teeter Field and Hughes Field.

As shown in Table 3.12-1 (Recreational Facilities in Project Vicinity), 12 parks and recreational facilities are located within approximately one mile of the Project site. Currently, the majority of existing SVHS athletic events are held at off-site event locations. Given the number of existing park and recreational options available in the Project vicinity, the temporary relocation of additional events over one sports season is not anticipated to result in use of parks or recreational facilities such that substantial physical deterioration would occur. Therefore, the temporary construction-related impact would be **less than significant**.

Operation

The Project would renovate and modernize the existing athletic fields at the SVHS Campus with a new track & field, baseball and softball fields, basketball courts, and an open grass field. The Project would provide facilities to support the existing athletic field practices and events conducted by the SVHS, as well as community events held on the campus. Construction and operation of the Project would not increase student capacity at SVHS or directly or indirectly induce substantial population growth. The Project would allow the majority of existing SVHS team sports activities and SVHS special events that currently occur off-site to occur on the SVHS Campus, thereby reducing the demand at Adele Harrison Middle School, Arnold Field, and Field of Dreams. Therefore, Project implementation would not involve activities that would cause or accelerate substantial physical deterioration of parks or recreational facilities, and would not necessitate or

facilitate construction or expansion of off-site recreational facilities. The impact would be **less than significant**.

Significance	<i>Less than significant</i>
Mitigation	No mitigation is required.

3.11.6 Cumulative Impacts

Impact PSR-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to public services and recreational resources?

For public services and recreation the geographic scope for assessing cumulative impacts is the City of Sonoma.

Because the Project would not result in impacts related to public services, implementation of the Project would not contribute to a cumulative impacts related to public services.

The majority of the cumulative projects listed in Section 3 (Environmental Analysis), Table 3-1 (Projects Considered for Cumulative Impacts) are not anticipated to require construction activities at SVHS or at any of the existing off-site event locations. The SVHS/Sonoma Splash Pool and the SVHS Facility Upgrades Projects would be located on the Project site, however they would not interfere with the existing recreational amenities utilized on-site. The Altimira Middle School Track & Field Renovations Project (cumulative project 5) is currently under construction and is anticipated to be completed prior to the proposed Project, and therefore may potentially be used as an alternative location for track & field practice and league events. The Depot Park First Street West Improvements Project (cumulative project 7) would be located in the vicinity of the off-site event locations at Arnold Field and Field of Dreams that would experience increased use during construction of the Project. However, the Depot Park First Street West Improvements Project would have a short construction duration (less than 3 months), would be limited to a short segment of Depot Park adjacent to First Street West, and would not interfere with park use or use of off-site event locations. Other cumulative projects identified in Table 3-1 are not located within the immediate vicinity of the Project site or the off-site event locations. Therefore, the cumulative impact on recreational resources would be **less than significant**.

Significance	<i>Less than Cumulatively Considerable (Less than Significant)</i>
Mitigation	No mitigation is required.

3.12 Transportation

This section evaluates potential environmental impacts related to transportation and traffic during construction and operation of the Project. In addition to the analysis provided in this section, the following subjects are related to transportation and traffic, but are evaluated in other sections of this EIR:

- Potential impacts related to interfering with an adopted emergency response plan, and with the transport of hazardous materials during construction, are addressed in Section 3.7 (Hazards and Hazardous Materials).
- Potential impacts related to increases in ambient noise levels due to changes in traffic levels and circulation are addressed in Section 3.10 (Noise).

A Traffic Impact Study was conducted for the Project (W-Trans 2019, see Appendix G) and is used as a basis for describing the existing transportation setting and evaluating potential traffic-related traffic impacts. The Traffic Impact Study study area included six intersections along Broadway from Napa Street to Leveroni Road-Napa Road and MacArthur Street from Fifth Street West to Fifth Street East. Existing conditions were assessed using traffic volume counts collected while local schools were in session (W-Trans 2019).

3.12.1 Existing Setting

The following information discusses the transportation-related context in which the proposed Project would be constructed and operated, including a description of the regional and local roadway network, and existing traffic conditions and public transit, pedestrian and bicycle facilities present in the Study Area.

Local Roadways

Local roadways evaluated in the Traffic Impact Study and included in this transportation analysis are (see Figure 1 in Appendix G Traffic Impact Study):

Napa Street/Broadway

Napa Street/Broadway is a four-way stop controlled intersection with standard crosswalks across all approaches and curb ramps on all corners. The northbound and eastbound approaches, which carry State Route 12 (SR 12), each have two lanes, while the southbound and westbound approaches each have one lane. The Sonoma Plaza is on the north side of the intersection, and the north leg serves as a driveway to City Hall, which is located in the Plaza.

West MacArthur Street/Fifth Street West

West MacArthur Street/Fifth Street West is a four-way stop-controlled intersection with one approach lane from each direction. All four legs have continental crosswalks and curb ramps. Three legs have bicycle lanes on both sides, while the west leg serves as a residential street.

MacArthur Street/Broadway

MacArthur Street/Broadway is a signalized intersection with crosswalks across all four legs. Broadway has two approach lanes and protected left-turn phasing on each approach, whereas MacArthur Street has one approach lane and permissive phasing. Broadway has wide parking lanes that also serve as bicycle lanes, and the west leg of MacArthur Street has dedicated bicycle lanes.

East MacArthur Street/Fifth Street East

East MacArthur Street/Fifth Street East is a four-way intersection with stop controls on each approach, a standard crosswalk on the north leg of Fifth Street East, and a continental crosswalk on the east leg of East MacArthur Street. All quadrants except the southwest corner have sidewalks and curb ramps.

Newcomb Street/Broadway

Newcomb Street/Broadway is a signalized intersection with four legs; the east leg is the main driveway connecting to the student parking lot at SVHS. The approach from this driveway and the northbound approach on Broadway have two lanes, whereas the southbound Broadway approach and eastbound Newcomb Street approach each have one lane. Broadway has protected left-turn phasing. There are crosswalks on the west, north, and east legs.

Leveroni Road-Napa Road/Broadway

Leveroni Road-Napa Road/Broadway is a signalized intersection with two-lane approaches from Broadway, one-lane approaches from Leveroni Road and Napa Road, and protected left-turn phasing on all four approaches. There are continental crosswalks across all approaches, although only the northwest corner has sidewalks and a curb ramp. There are bicycle lanes on the east leg of Napa Road.

Vehicle Miles Traveled

A common indicator used to quantify the amount of motor vehicle use in a specified area is vehicle miles traveled (VMT). VMT represents the total number of daily miles driven by persons traveling to and from a defined geographic area. Many factors affect VMT, including the average distance residents commute to work, school, and shopping, as well as the proportion of trips that are made by non-automobile modes. The City of Sonoma has not yet adopted thresholds for analyzing VMT.

Traffic Volumes and Level of Service

Level of Service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, LOS A represents free flow conditions and LOS F represents forced flow or breakdown conditions. A unit of measure that indicates a level of delay generally accompanies the LOS designation. All intersections evaluated within the Study Area meet LOS D criteria except the intersection at Napa Street and Broadway, which is specifically exempt under the *City of Sonoma 2020 General Plan* (W-Trans 2019).

Table 3.12-1 Intersection Level of Service Criteria

LOS	All-Way Stop-Controlled	Signalized
A	Delay of 0 to 10 seconds. Upon stopping, drivers are immediately able to proceed.	Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all.
B	Delay of 10 to 15 seconds. Drivers may wait for one or two vehicles to clear the intersection before proceeding from a stop.	Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop.
C	Delay of 15 to 25 seconds. Drivers will enter a queue of one or two vehicles on the same approach and wait for vehicle to clear from one or more approaches prior to entering the intersection.	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
D	Delay of 25 to 35 seconds. Queues of more than two vehicles are encountered on one or more approaches.	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.
E	Delay of 35 to 50 seconds. Longer queues are encountered on more than one approach to the intersection.	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop, and drivers consider the delay excessive.
F	Delay of more than 50 seconds. Drivers enter long queues on all approaches.	Delay of more than 80 seconds. Vehicles may wait through more than one cycle to clear the intersection.

Source: Transportation Research Board, 2010

Bicycle Facilities

Bikeways in California are classified into four categories:

1. Class I Multi-Use Path – a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
2. Class II Bike Lane – a striped and signed lane for one-way bike travel on a street or highway.
3. Class III Bike Route – signing only for shared use with motor vehicles within the same travel lane on a street or highway.
4. Class IV Bikeway – also known as a separated bikeway, a Class IV Bikeway is for the exclusive use of bicycles and includes a separation between the bikeway and the motor vehicle traffic lane. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking (Caltrans 2017).

In the Study Area, Class II bike lanes exist on West MacArthur Street between Fifth Street West and Broadway. Bicyclists ride in the roadway and/or on sidewalks along all other streets within the Study Area. Table 3.12-2 summarizes the existing and planned bicycle facilities in the Project vicinity, as contained in the *City of Sonoma 2020 General Plan Circulation Element*.

Table 3.12-2 Bicycle Facility Summary

Facility	Class	Length (Miles)	Begin Point	End Point
Existing				
Nathanson Creek Trail	I	0.43	Dewell Dr.	E MacArthur St.
SVHS Trail	I	0.13	Nathanson Creek Trail	End
Denmark Street Connector	I	0.10	Nathanson Creek Trail	Denmark St.
Dewell Drive	II	0.18	Larkin Dr.	Fine Ave.
W. MacArthur Street	II	0.55	Fifth St. W.	Broadway
Second Street E.	III	0.76	E MacArthur St.	Sonoma City Trail
Planned				
Broadway	II	1.12	Napa St.	Leveroni Rd.- Napa Rd.
Newcomb Street ¹	III	0.29	Fryer Creek Trail	Broadway
Denmark Street ¹	III	0.90	Denmark St Connector	Eighth St. E

Source: City of Sonoma 2016

Note: 1) All or portions are located within unincorporated areas of Sonoma County

Pedestrian Facilities

Existing pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. In general, a network of sidewalks, crosswalks, pedestrian signals, and curb ramps provide access for pedestrians in the vicinity of the proposed Project site; however, sidewalk gaps can be found along Broadway south of Clay Street to the south of the SVHS Campus. Existing gaps and obstacles along the connecting roadways impact convenient and continuous access for pedestrians and present safety concerns in those locations where appropriate pedestrian infrastructure would address potential conflict points.

Broadway

Complete sidewalk coverage is provided on Broadway between Napa Street and Clay Street, but there are significant gaps on the east side of the street between Clay Street and Leveroni Road-Napa Road. Sidewalks are provided in front of Friedman's Home Improvement, but not the Sonoma Train Town Railroad or Salsa Trading Company. At Clay Street, a crosswalk on the south leg of Broadway terminates in a grass berm on the east side of the road. While numerous crosswalks are provided across Broadway, these crossings are often long as Broadway features wide parking lanes, five travel lanes, or both.

MacArthur Street

Continuous sidewalks are provided on both sides of MacArthur Street between Fifth Street West and Fifth Street East, except for a gap on the south side in front of a house next to Prestwood Elementary

School and a gap in front of a house on the southwest corner of East MacArthur Street/Fifth Street East.

Transit Facilities

Sonoma County Transit (SCT) provides fixed route bus service in the City of Sonoma. SCT Route 32 provides service to destinations throughout the City and nearby unincorporated communities, with stops along Broadway and West MacArthur Street. Route 32 operates Monday through Friday with nine southbound and twelve northbound trips between 7:30 a.m. and 4:36 p.m. Saturday service operates with three southbound and five northbound trips between 9:00 a.m. and 2:40 p.m. Routes 40 and 53 provide regional service between the cities of Sonoma and Petaluma with stops along Broadway in the City of Sonoma. These routes provide five eastbound and six westbound weekday trips between 6:30 a.m. and 6:55 p.m. Routes 40 and 53 essentially operate the same route, except that Route 53 provides a connection to the Sonoma-Marin Area Rail Transit (SMART) in Petaluma.

Routes 30 and 34 connect the City of Sonoma to the City of Santa Rosa along SR 12. In the Project area, Route 30 stops along Broadway and West MacArthur Street, and Route 34 stops along Broadway, Leveroni Road, and Fifth Street West. Route 30 provides weekday service with one- to two-hour headways between 5:50 a.m. and 9:25 p.m., as well as weekend service with four trips in each direction between 7:25 a.m. and 8:12 p.m. Route 34 provides one a.m. southbound trip and one p.m. northbound trip.

Route 38 provides service between the Oakmont neighborhood of Santa Rosa and downtown San Rafael, including in the Project area along Broadway, West MacArthur Street, and Leveroni Road. Weekday service is provided with one southbound a.m. trip and one northbound p.m. trip.

3.12.2 Regulatory Framework

California Department of Transportation

Transportation analysis in California is guided by policies and standards set at the State level by the California Department of Transportation (Caltrans) for highway facilities under State jurisdiction, as well as by local jurisdictions. Any work or traffic control within the State right-of-way requires an encroachment permit issued by Caltrans. In addition, work that requires movement of oversized or excessive load vehicles on highway facilities requires a transportation permit by Caltrans.

Regional and Local

The *City of Sonoma 2020 General Plan* and Municipal Code were consulted as a source of local information, conditions, and context, as well as to provide rationale for certain impact determinations.

City of Sonoma Municipal Code

The City of Sonoma Municipal Code provides the following development guidelines and requirements:

Vehicles and Traffic – Chapters 10.08 - 10.76. This chapter applies to traffic regulations within the City and includes standards for traffic control devices, pedestrian devices, bicycles, and other transportation provisions applicable to the proposed Project.

City of Sonoma General Plan

The *City of Sonoma 2020 General Plan*, Circulation Element, outlines major policies and goals related to transportation and traffic. Applicable goals and policies are included below.

Goal CE-1 Maintain a citywide roadway system that provides for the safe and efficient movement of people and goods to all parts of Sonoma.

Policy 1.5 Establish a motor vehicle LOS standard of LOS D at intersections. The following shall be taken into consideration in applying this standard:

- Efforts to meet the vehicle LOS standard shall not result in diminished safety for other modes including walking, bicycling, or transit (see Policy 1.6).
- The standard shall be applied to the overall intersection operation and not that of any individual approach or movement.
- Consideration shall be given to the operation of the intersection over time, rather than relying exclusively on peak period conditions.
- The five intersections surrounding the historic Sonoma Plaza shall be exempt from vehicle LOS standards in order to maintain the historic integrity of the Plaza and prioritize non-auto modes.

Policy 1.6 Intersections may be exempted from the vehicle LOS standards established in Policy 1.5 in cases where the City Council finds that the infrastructure improvements needed to maintain LOS D operation (such as roadway or intersection widening) would be in conflict with goals for improving multimodal circulation, or would lead to other potentially adverse environmental impacts. For those locations where the City allows a reduced motor vehicle LOS or queuing standard, additional multimodal improvements and/or Transportation Demand Management (TDM) measures may be required in order to reduce impacts to mobility.

Goal CE-2 Create a circulation network that supports and encourages travel by non-automobile modes.

Policy 2.3 Preserve and establish short-cuts that give pedestrians and bicyclists alternatives to traveling along major streets.

Policy 2.4 Improve pedestrian circulation and safety at major intersections.

Policy 2.11 Promote bicycling as an efficient alternative to driving.

Policy 2.15 Promote transit use and improve transit services.

3.12.3 Evaluation Criteria and Significance Thresholds

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized in Table 3.12-3 (Evaluation Criteria and Significance Thresholds) are used to determine if the Project would have a significant effect related to transportation.

Table 3.12-3 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
TR-1: Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	Road closures along access roadways that conflict with applicable encroachment permit requirements. Maintain intersection operation to LOS D or greater.	CEQA Guidelines Appendix G, Checklist Item XVII (a) Sonoma General Plan Policy 1.5 and 1.6
TR-2: Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	Increase vehicle miles traveled.	CEQA Guidelines Appendix G, Checklist Item XVII (b)
TR-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Non-conformance with City of Sonoma roadway design standards.	CEQA Guidelines Appendix G, Checklist Item XVII (c) City of Sonoma Municipal Code Chapters 10.08 through 10.76
TR-4: Would the project result in inadequate emergency access?	Increases in traffic, road closures, or insufficient emergency access. Greater than zero incidences of delayed emergency access.	CEQA Guidelines Appendix G, Checklist Item XVII (d)

3.12.4 Approach to Analysis

In determining the Project's conflict with a plan, the LOS standards for intersections, identified in the City's General Plan, are used. The study area includes six intersections along Broadway from Napa Street to Leveroni Road-Napa Road and MacArthur Street from Fifth Street West to Fifth Street East (See Figure 1 – Study Area and Existing Lane Configurations in Appendix G). Industry standard rates published by the Institute of Transportation Engineers (ITE) in Trip Generation Manual, 10th Edition, 2017 were not used in the Traffic Impact Study to assess the trip generation of this Project, as the specific parameters of this Project are not adequately captured by any land use rates in the Trip Generation Manual. Instead, a literature review was conducted, and rates were found that were developed in 2016 for the San Mateo Unified High School District (SMUHSD) for a series of Projects to add lighting to five existing high school stadiums. These rates were used for this analysis.

A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a Project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Projects that decrease vehicle miles traveled in the Project area compared to existing conditions are presumed to have a less than significant transportation impact. Due to the nature of the Project, impacts related to VMT are discussed qualitatively. In addition, it is noted that standards of significance regarding VMT have not yet been adopted by either the City of Sonoma or County of Sonoma.

The Project also is evaluated for consistency with adopted plans and policies regarding bicycle and pedestrian facilities, and for the potential for construction activities to limit emergency access in the Study Area.

3.12.5 Impacts and Mitigation Measures

Table 3.12-4 (Summary of Impacts – Transportation and Traffic) provides a summary of potential impacts from the Project.

Table 3.12-4 Summary of Impacts – Transportation and Traffic

Impact	Project Significance
TR-1: Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	LS
TR-2: Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	LS
TR-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	NI
TR-4: Would the project result in inadequate emergency access?	NI
TR-C-1: Would the project result in a cumulatively considerable contribution to a significant cumulative impact related to transportation?	LS

Notes: NI = No Impact

LS = Less than Significant

LSM = Less than Significant with Mitigation

Impact TR-1: Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Construction

Construction traffic for the Project would result in a short-term increase in construction-related vehicle trips, including approximately 57 haul trips, which would occur during the 1-month demolition period, and approximately 300 haul trips, which would occur during the 10-month grading period. The temporal distribution of haul trips is not expected to be uniform during Project construction, as it is dependent on varying construction activities and need for materials or off-haul. This temporary increase in trips related to construction would not conflict with circulation policies as established by Caltrans or the City of Sonoma Municipal Code and General Plan Circulation Element.

Pedestrian access from Denmark Street, Davila Court, and Prestwood Elementary school would require closure during certain times of construction for safety reasons. Pedestrian access from MacArthur Lane and Fine Avenue would remain open. During the utility connections in Denmark Street, partial lane-closure may be required. The closures would be temporary, and not conflict with roadway policies as established by Caltrans or the City of Sonoma Municipal Code and General Plan Circulation Element. The construction-related impact would be **less than significant**.

Operation

The City of Sonoma's Circulation Element requires that all intersections be maintained at a LOS of D or better, except for the intersection at Napa Street and Broadway, which is specifically exempted. The Traffic Impact Study evaluated

vehicle trips during the largest Project events at the renovated facilities (2,500-person event for homecoming and graduation) as well as a 1,500-person event that represents a 1,300-person football game and concurrent 200-person event during the Friday PM peak hour. In addition, a 60-person event was considered during the midweek PM Peak hour.

Existing operation levels would be maintained with the addition of traffic for a 60-person event during the midweek PM peak (see Table 8 in Appendix G). Existing operation levels would be maintained with the addition of a 1,500-person event during the Friday PM peak (see Table 9 in Appendix G), with the exception of MacArthur Street/Broadway which would reduce from LOS B to C, Newcomb Street/Broadway which would reduce from LOS A to C. However, both intersections would still operate below the threshold (maintain LOS D or better) established in Policy 1.5 of the City's General Plan.

As summarized in Table 3.12-5 (Comparison of Existing and Project LOS during Peak Hours), with the addition of trips for a 2,500-person event, the intersection of Newcomb Street/Broadway would degrade from LOS A to LOS E. These reduced levels of service would only occur two times per year, once in the fall and once in the spring. In addition, as described in Section 2.6.4 (Access and Parking Management), a parking management strategy would be implemented to assist in the flow of traffic during large events of 1,500 or more. This includes providing mapping of appropriate parking areas, providing parking attendants and signage for vehicular control (once the main lot is full direct vehicles to Adele Harrison and Prestwood), and announcing events ahead of time on social media and posting around campus.

Although the delay at Napa Street/Broadway also would increase sufficiently to cause operation to deteriorate from LOS C to LOS E, this intersection is exempt from LOS standards under the City's adopted criteria.

Table 3.12-5 Comparison of Existing and Project LOS during Friday PM Peak Hours

Intersection	Existing Friday PM Peak		Project (2,500) Friday PM Peak	
	Delay	LOS	Delay	LOS
Napa St./Broadway	27.0	C	59.9	E
W. MacArthur St./Fifth St. W.	12.5	C	13.2	C
MacArthur St./Broadway	25.8	B	33.4	D
E. MacArthur St./Fifth St. E.	9.0	A	11.1	A
Newcomb St/Broadway	12.0	A	13.9	E
Leveroni Rd/-Napa Rd/Broadway	34.2	D	45.4	D

Notes: Delay is measured in average seconds per vehicle.

The pedestrian, bicycle, and transit facilities serving the Project site were determined to be generally adequate. The Project would not make any changes or improvements to these existing facilities such that a conflict would result.

Given the LOS for key intersections would be maintained at or below the required LOS (except Newcomb Street/Broadway, which would only occur 2 times per year), and the continued adequacy of pedestrian, bicycle, and transit facilities, the operational impact would be **less than significant**.

Significance *Less than significant.*

Mitigation No mitigation is required.

Impact TR-2: Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

The Project would enable football games which currently take place at Arnold Field in the northern part of the City of Sonoma, and other athletic events that occur elsewhere, to instead take place at the SVHS Campus, which is relatively centrally located in the City of Sonoma. A peak hour trip generation rate of 0.31 trips per attendee with approximately 90 percent of trips entering and 10 percent of trips exiting, was applied to two estimated event thresholds: 1,500-person events representing typical Friday evening during football season, and 2,500-person events representing homecoming or a graduation ceremony. This results in 465 relocated trips during the Friday p.m. peak hour for the 1,500-person event and 775 relocated trips during the Friday p.m. peak hour for the 2,500-person event. As the Project would not represent new athletic events, but rather the centralization of existing events, it would be expected that these relocated trips would result in a net reduction in VMT.

Given the two largest relocated events (homecoming and graduation) currently occur at Arnold Field (1.2 miles north of the SVHS Campus) at the northern edge of the City of Sonoma, and no new large events are planned, the operational impact would be **less than significant**.

Significance *Less than significant*

Mitigation No mitigation is required.

Impact TR-3: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The Project does not include construction or renovation of any roads, bicycle paths, or pedestrian trails, other than the internal pathways of the Project site. Design of existing transportation infrastructure would not be altered in such a way that would create a hazard. There would be **no impact**.

Significance *No impact*

Mitigation No mitigation is required.

Impact TR-4: Would the project result in inadequate emergency access?

Construction

The potential exists for a partial lane closure at Denmark Street. However, construction would be of short duration, and at the point where the utilities trenching would occur, Denmark Street is not a thru street and dead-ends at the

SVHS Campus. During the utility construction, adequate emergency access would be maintained at all times to the handful of houses past the construction. There would be **no impact** that would result from inadequate access.

Operation

Operational emergency access would not be reduced from existing emergency access. The renovated facilities would be incorporated into the school's existing evacuation plan and would comply with its standards for safety and evacuation. New fire gates would be installed at the terminus of Denmark Street and a new 20-foot-wide emergency vehicle access pathway would be constructed. The emergency pathway would provide improved first responder access to the renovated facilities. Therefore, there would be **no impact** to emergency access from implementation of the Project.

Significance *No Impact*

Mitigation No mitigation is required.

Impact TR-C-1: Would the project result in a cumulatively considerable contribution to a significant cumulative impact related to transportation?

The geographic scope for the analysis of cumulative impacts on transportation and circulation consists of the areas that use the same roadways as the Project.

As discussed in Impacts TR-3 and TR-4, there would be no impact related to increased hazards due to design feature or incompatible uses, or emergency access. Therefore, there would be no contribution to a cumulative impact associated with transportation hazards or emergency access.

As discussed in Impact TR-2, VMT is estimated to decrease with the centralization of existing events, particularly large events, which currently occur at Arnold Field and Field of Dreams and would be relocated to the SVHS with implementation of the Project. Therefore, impacts related to TR-2 are not anticipated to contribute to a cumulative impact.

As to Impact TR-1, implementation of cumulative projects identified in Table 3-1 (Projects Considered for Cumulative Impacts) may result in overlapping construction-related traffic with the Project, including the Caltrans Highway 12 Restriping and Improvements Project, and the 1211 Broadway, Altamira Apartments, and Mockingbird Lane housing projects. These four cumulative projects would all use, or in the case of the Caltrans Highway 12 Project Highway Project directly impact, Highway 12/Broadway to access the respective sites during construction. If peak construction occurred simultaneously for all four projects, temporary delays during peak hours of travel could exceed the City's LOS standards at intersections north of Leveroni Road/Napa Road. However, access to the Project site during construction would utilize Napa Road or 5th Street East from the south, thus avoiding the core cumulative overlapping segment of Highway 12/Broadway north of Leveroni Road/Napa Road. In addition, as noted under Impact TR-1, above, the temporal distribution of haul trips is not expected to be uniform during Project construction, as it is dependent on varying construction activities and need for materials or off-haul. The Project's contribution to a

cumulative impact related to traffic and circulation during construction would not be cumulatively considerable and therefore **less than significant**.

As shown in Table 3.12-6 (Comparison of Future and Future+Project LOS during Friday PM Peak Hours), LOS is acceptable at all intersections under the cumulative scenario. With the addition of the 1,500-person event LOS degrades at four of the six intersections, but remains acceptable under the City's standards (see Table 12 in Appendix G). With the addition of the 2,500-person event, Napa Street/Broadway deteriorates to LOS F. However, this intersection is exempt from the City's standard. LOS would degrade at MacArthur Street/Broadway and Newcomb Street/Broadway from LOS C and B, respectively, to LOS E. However, these reductions in levels of service would only occur two times per year. In addition, as described in Section 2.6.4 (Access and Parking Management), a parking management strategy would be implemented to assist in the flow of traffic during large events of 1,500 or more. This includes providing mapping of appropriate parking areas, providing parking attendants and signage for vehicular control (once the main lot is full direct vehicles to Adele Harrison and Prestwood), and announcing events ahead of time on social media and posting around campus. The Project's contribution to the cumulative impact during operation would be **less than significant**.

Table 3.12-6 Comparison of Future and Future+Project LOS during Friday PM Peak Hours

Intersection	Future Friday PM Peak		Future+Project (2,500) Friday PM Peak	
	Delay	LOS	Delay	LOS
Napa St./Broadway	29.8	D	63.7	F
W. MacArthur St./Fifth St. W.	27.0	C	28.6	C
MacArthur St./Broadway	20.1	C	65.4	E
E. MacArthur St./Fifth St. E.	9.7	A	11.0	B
Newcomb St/Broadway	11.8	B	62.1	E
Leveroni Rd/-Napa Rd/Broadway	42.6	D	49.9	D

Significance *Less than Cumulatively Considerable (Less than Significant)*

Mitigation No mitigation is required.

3.13 Utilities and Service Systems

This section provides a description of the existing utilities in the Project area and evaluates changes to those conditions that would result from implementation of the proposed project. In addition to the analysis provided in this section, the following subject is related to utilities, but is evaluated in other sections of this EIR:

- Potential impacts related to storm water runoff that could exceed the capacity of existing or planned storm water drainage systems are evaluated in Section 3.8 (Hydrology and Water Quality).

3.13.1 Existing Setting

Water Distribution and Supply

The City purchases most of its potable water from Sonoma Water. Sonoma Water draws water from gravel beds along the Russian River in the vicinity of Forestville. Transmission mains distribute this water, with final delivery to Sonoma via the Sonoma Aqueduct through the Valley of the Moon Water District.

The City's contract with Sonoma Water provides for a peak month, average delivery rate of 6.3 million gallons per day (mgd), with an annual entitlement limit of 3,000 acre-feet (Sonoma 2016). The term of the agreement is through 2037 and can be extended by amendment. This supply is supplemented by a system of City-owned groundwater wells that provide a potable water source in the event that aqueduct deliveries are interrupted or are otherwise unable to meet demand. The City is rehabilitating these wells to help ensure that future demand will be met.

In 2017, City of Sonoma Water Division purchased 602 million gallons of water from Sonoma Water, and, in addition, the City produced 48 million gallons from its groundwater wells during the months of January through September. Once the water has been purchased or produced, it enters the City's distribution system, which includes more than 58 miles of water main, 4,387 service connections, five storage tanks and two pumping stations (Sonoma 2016).

Wastewater Collection, Treatment, and Disposal

Sonoma Valley County Sanitation District (SVCSD) provides wastewater collection, treatment, disposal, and water recycling services for the City's service area, and other areas in the Sonoma Valley, including within the boundaries of the City of Sonoma. The SVCSD reclamation facility provides a tertiary treatment for a permitted average dry-weather flow capacity of 3 million gallons per day (mgd). The current average dry-weather flow is 2.7 mgd, with 22 mgd as the average winter peak flow. The population area of the SVCSD is approximately 40,000. The City's water service area population is approximately 28% of this SVCSD population, and so 28% of the dry weather flow is apportioned to the City's service area (Sonoma 2016).

Treated wastewater is currently either discharged to the San Pablo Bay via Schell and Hudeman's Slough or is reused by dairy and vineyard operations in the southern part of the Sonoma Valley. In recent years, the SVCSD has explored the feasibility of expanding recycled water use to offset local groundwater pumping or imported Russian River water in addition to reducing or eliminating discharges to San Pablo Bay (Sonoma 2016).

Storm Water Collection and Treatment

The three creeks receiving stormwater runoff from the City of Sonoma are Nathanson Creek, Sonoma Creek, and Fryer Creek. The water discharged to the creeks are not treated prior to entering the local waterways.

Solid Waste

The City of Sonoma contracts with Sonoma Garbage Collectors to provide solid waste collection and curbside recycling for residential and commercial uses. Sonoma Garbage Collectors collects and transports commercial and residential solid waste to the Central Disposal Site Transfer Station at 500 Meacham Road in the City of Petaluma. Sonoma County's municipal solid waste is then delivered to three out-of-County landfills within the Bay Area, including the Central Landfill in Sonoma County, Redwood Landfill in Marin County, Keller Canyon Landfill in Contra Costa County, and Potrero Hills Landfill in Solano County.

Gas, Electricity, Cable and Telephone

Sonoma Clean Power generates the electricity that services the Project site through a variety of renewable energy sources including geothermal, water, wind, solar, and biomass. The Pacific Gas and Electric Company (PG&E) delivers the electricity to the site. PG&E also provides natural gas service to the Project area. PG&E is regulated by the California Public Utilities Commission and purchases both gas and electrical power from a variety of sources, including other utility companies. AT&T provides cable and telephone service to the area.

3.13.2 Regulatory Framework

Federal

There are no federal plans, policies, regulations, or laws related to aesthetics applicable to this project.

State and Regional

Urban Water Management Planning Act

The Urban Water Management Planning Act (UWMP Act) was originally established by Assembly Bill 797 (AB 797) on September 21, 1983. The primary objective of the UWMP Act is to direct "urban water suppliers" to develop an Urban Water Management Plan which provides a framework for long-term water supply planning, and documents how urban water suppliers are carrying out their long-term resource planning responsibilities to ensure adequate water supplies are available to meet existing and future water demands. The UWMP Act applies to water suppliers that provide over 3,000 acre-feet per year or have over 3,000 connections. The City of Sonoma adopted the 2015 Urban Water Management Plan per the UWMP Act.

California Integrated Waste Management Act

The California Integrated Waste Management Act (CIWMA), also known as Assembly Bill 939, required each jurisdiction in the state to divert 25 percent of its solid waste from landfill or transformation facilities by 1995 and 50 percent by 2000. Accepted diversion methods include source reduction, recycling and composting activities. The CIWMA also required each County to prepare a

Countywide Integrated Waste Management Plan (ColWMP), which is the main planning document for solid waste management in each County. Sonoma County's ColWMP is the principal planning document for solid waste management in Sonoma County. The ColWMP identifies goals and objectives of the County and the incorporated cities in the County with respect to solid waste reduction, recycling diversion, and disposal of solid waste. Concurrent with the preparation of the ColWMP, all incorporated cities in the County and the County entered into a Joint Power Agreement which formed the Sonoma County Waste Management Agency (SCWMA) to deal with household hazardous waste, yard and wood waste, and public education. The most recent update to the ColWMP was adopted and certified by SCWMA in February 2010.

Local

City of Sonoma General Plan

The *City of Sonoma 2020 General Plan* (Sonoma 2006) was consulted as a source of local information, conditions, and context, as well to provide rationale for certain impact determinations where other guidance was found to not exist or lacking.

The following goals and policies from the *City of Sonoma 2020 General Plan* are generally related to utilities and applicable to the Project.

Goal ER-2 Identify, preserve, and enhance important habitat areas and significant environmental resources.

Policy 2.4 Protect Sonoma Valley watershed resources, including surface and ground water supplies and quality.

Goal ER-3 Conserve natural resources to ensure their long-term sustainability.

Policy 3.2 Encourage construction, building maintenance, landscaping, and transportation practices that promote energy and water conservation and reduce green-house gas emissions.

City of Sonoma Municipal Code

Chapter 14.32 Water-Efficient Landscaping

The City of Sonoma adopted an ordinance that has been incorporated into this section of the Sonoma Municipal Code to address water-efficient landscaping. The provisions in this chapter of the Sonoma Municipal Code protect local water supplies through the implementation of a whole system approach to design, construction, installation and maintenance of the landscape resulting in water-conserving climate appropriate landscapes, improved water quality and the minimization of natural resource inputs. This chapter applies to all new landscape projects. The goals of this chapter are enforced through the requirement that the City review landscape plan designs to ensure that they comply with the minimum standards contained in the chapter. Some of these standards include grouping similar water use needs in distinct hydrozones and prohibiting invasive plants listed by the California Invasive Plant Council.

3.13.3 Evaluation Criteria and Significance Thresholds

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized in Table 3.13-1 (Evaluation Criteria and Significance Thresholds) are used to determine if the Project would have a significant effect related to utilities.

Table 3.13-1 Evaluation Criteria and Significance Thresholds

Evaluation Criteria	Significance Thresholds	Sources
UT-1: Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	Inadequate water supply, storm water drainage, natural gas, or telecommunications infrastructure to serve the site	CEQA Guidelines Appendix G, Checklist Item XIX (a)
UT-2: Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	Inadequate water supply capacity or infrastructure to serve the needs of the project	CEQA Guidelines Appendix G, Checklist Item XIX (b)
UT-3: Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	Inadequate sewer capacity to serve the project and future needs of the City	CEQA Guidelines Appendix G, Checklist Item XIX (c)
UT-4: Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	Inadequate regional landfill capacity to serve the project Violation of solid waste reduction goals	CEQA Guidelines Appendix G, Checklist Item XIX (d)
UT-5: Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	Non-compliance with applicable solid waste diversion regulations	CEQA Guidelines Appendix G, Checklist Item XIX (e)

3.13.4 Approach to Analysis

Potential impacts on utilities are analyzed based on the potential for the proposed project to affect the wastewater, water, stormwater, and solid waste facilities during construction or operation, as indicated in the thresholds above.

3.13.5 Impacts and Mitigation Measures

Table 3.13-2 (Summary of Impacts – Utilities) provides a summary of potential impacts from the Project.

Table 3.13-2 Summary of Impacts – Utilities and Service Systems

Impact	Project Significance
UT-1: Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	NI
UT-2: Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	LS
UT-3: Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	LS
UT-4: Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	LS
UT-5: Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	NI
UT-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to utilities?	LS

Notes: NI = No Impact

LS = Less than Significant

LSM = Less than Significant with Mitigation

Impact UT-1: Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Neither construction nor operation of the Project would require new, expanded, or relocated water, wastewater treatment, storm water drainage, or dry utilities. Both wet and dry utilities would connect either on-site or in Denmark to existing facilities.

During operation, the Project would require potable water supply for the occasional cleaning of the track & field, water fountains, and concession/restroom building. Based on the City of Sonoma's Water Master Plan, the City is estimated to demand approximately 2,587 acre-feet per year (AF/Y) by 2040. The City's current water supply is estimated at 3,367 AF/Y, which is higher than both current and estimated future demand (GHD 2018). Operation of the Project would require minimal water for the above-mentioned uses. In addition, potable water use is estimated to go down with implementation of the Project as the existing natural turf fields are irrigated with potable water, while the new softball and baseball fields would be irrigated with recycled water. Therefore, existing water supplies would be sufficient to serve the operational phase, with no new or expanded water facilities required.

Wastewater capacity would be required to operate the restroom/concession building. The proposed restroom would replace the existing restroom east of the track & field. Increased use of the on-site restroom would occur due to the relocation of soccer, baseball, and lacrosse athletic events and Senior Graduation to the Project site. However, the Project (i.e., relocated events) is anticipated to produce a similar amount of wastewater as currently generated by the restroom

facilities at Arnold Field, Field of Dreams, and the existing on-site restroom since the number of athletes and patrons attending the practices/games and other events would remain the same and all wastewater generated within City-limits is treated at the SVCSD reclamation facility. Therefore, the wastewater generated by the restroom facility at the Project site is not anticipated to require additional capacity at the reclamation facility. The concessions would also generate a small amount of wastewater. However, operation of the concessions would be limited, confined to operating only when games occur. Therefore, the amount of wastewater generated by the concessions would be minimal. The Project would not require or result in the construction of new or expanded wastewater facilities.

The Project includes installation of LID features for storm water drainage in order to off-set the increase in impervious surface. The Project would also install a standard subsurface stormwater drain within the bioretention area to drain to the existing culvert that connects to Nathanson Creek. The installation of this new stormwater connection is included in the analysis of this EIR. No off-site stormwater drainage facilities or expansion of existing facilities would be required.

The Project would require electricity to power the PA system, the sports lighting, as well as the concessions/restroom building and press box. The sports lighting is anticipated to use approximately 5,000 kilowatt hours, with negligible use from the PA system and building. Therefore, it is not anticipated that new or expanded electrical infrastructure would be required to accommodate the Project.

Although the proposed improvements may result in an increase in demand for potable water, wastewater, and electricity on-site, it would not require a significant amount of these resources such that construction of new water, wastewater, or electric facilities would be required. No natural gas would be used to power the Project, nor would telecommunications facilities be required. Therefore, there would be **no impact** as no relocated or expanded facilities are needed.

Significance *No Impact*

Mitigation No mitigation is required.

Impact UT-2: Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

The Project would demand water for the occasional cleaning of the track & field, water fountains, and the restroom/concessions building. Water to service the proposed improvements would be provided by the City of Sonoma. Operation of the Project would require minimal water for the above-mentioned uses. Potable water use is also estimated to decrease with implementation of the Project, as the existing natural turf fields are irrigated with potable water and the new softball and baseball fields would be irrigated with recycled water. The City's 2015 Urban Water Management Plan indicates that there would be adequate water supply to accommodate the growth projected through year 2040 under normal, dry, and multiple dry conditions (City of Sonoma 2016). Therefore, it is anticipated that the Project would have sufficient water supplies to serve the Project site during normal,

dry, and multiple dry year conditions. The Project's impact to water supplies would be **less than significant**.

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact UT-3: **Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

During operation, the restroom/concessions building would demand wastewater capacity. The proposed restroom would replace the existing restroom east of the track & field. Increased use of the on-site restroom would occur due to the relocation of soccer, baseball, and lacrosse athletic events and Senior Graduation to the Project Site. However, the Project (i.e., relocated events) is anticipated to generate a similar amount of wastewater as currently generated by the restroom facilities at Arnold Field, Field of Dreams, and the existing on-site restroom since the number of athletes and patrons attending the practices/games and other events would remain the same and all wastewater generated within City-limits is treated at the SVCSD reclamation facility. Therefore, the wastewater generated by the restroom facility at the Project site is not anticipated to require additional capacity at the reclamation facility.

The concessions operations would also generate a small amount of wastewater. However, operation of the concessions would be limited, confined to operating only when games occur. Therefore, the amount of wastewater generated by the concessions would be minimal, and would not require additional capacity at the reclamation facility. A **less-than-significant** impact would occur.

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact UT-4: **Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?**

Construction

Solid waste generated by the construction phase of the Project would be recycled to the extent feasible. For example, demolition debris, such as pavement and sod, would be off-hauled for recycling or composting. The material with no practical potential for reuse would be sent to the one of the regional landfills in the vicinity of the Project site (Table 3.13-3 [Landfill Capacity Summary]). The waste associated with the construction phase would be minimal and would not permanently contribute to the waste stream. Solid waste generated by this phase would represent a fraction of the daily permitted tonnage of the regional landfill facilities. Therefore, it is anticipated the solid waste disposal needs during construction would be sufficiently accommodated by the existing landfills. The impact would be **less than significant**.

Operation

The waste that is generated during the operational phase is anticipated to be able to be accommodated by the available capacity at one or multiple of the regional landfills. Due to the passive nature of the improvements, the solid waste generated would represent a small fraction of the daily permitted tonnages of these facilities. In addition, waste generation from the relocated events would not be new waste. The regional landfills in the vicinity of the site have millions of cubic yards left in capacity and are estimated to close anywhere from 2024 to 2048. Therefore, there is adequate capacity to serve the Project site during operation. A **less than significant** impact would occur.

Table 3.13-3 Landfill Capacity Summary

Landfill	Location	Remaining Capacity (cubic yards)	Estimated Closure Date
Central	Petaluma	9 million	2034
Redwood	Novato	26 million	2024
Potrero Hills	Suisun City	13.9 million	2048
Keller Canyon	Pittsburg	63.4 million	2030

Source: Cal Recycle, Solid Waste Information System

Significance *Less than Significant*

Mitigation No mitigation is required.

Impact UT-5: **Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?**

Construction

During the construction phase the Project would comply with all state and local statutes, including proper disposal of materials. The Project would divert a minimum of 50 percent of the non-hazardous construction and demolition debris generated during this phase pursuant to the 2016 California Green Building Standards. The Project would comply with this diversion requirement and all other applicable statutes and regulations, therefore **no impact** would occur.

Operation

It is anticipated that the Project would generate a small amount of waste associated with the events and practices held at the new facilities. The Project would comply with all state and local statutes related to solid waste, including the proper disposal of solids. This would include compliance with the Sonoma Waste Management Agency's recycling, hazardous waste, and composting programs in the City that are enacted to comply with AB 939. The Project would not conflict with or impede implementation of such laws, therefore, **no impact** would occur.

Significance *No Impact*

Mitigation No mitigation is required.

3.13.6 Cumulative Impacts

Impact UT-C-1: **Would the project result in a cumulatively considerable contribution to cumulative impacts related to utilities?**

Water

For water service the geographic scope for assessing cumulative impacts is the area within the City of Sonoma service area.

The proposed Project, in conjunction with other past, present, and reasonably foreseeable future projects, could result in a cumulative increase in water demand and the need for new or expanded water facilities. As discussed in the above Project-specific analysis, the proposed Project would not create the need for new or expanded water facilities or demand a significant amount of the existing water supply. Based on the City of Sonoma's Water Master Plan, water supply should be adequate to serve growth through 2040. Therefore, no significant cumulative impact would occur. The cumulative effect of the proposed Project on water service and supply would be **less than significant**.

Wastewater

For wastewater service the geographic scope for assessing cumulative impacts is the service area of the SVCSD.

The proposed project in conjunction with other past, present, and reasonably foreseeable projects could result in a cumulative increase in wastewater generation, resulting in increased demand on wastewater collection and treatment facilities. As discussed in the above Project-specific analysis, however, service demand by the proposed Project would not result in a significant impact on wastewater treatment capacity or create the need for new or expanded wastewater treatment facilities. Currently, the SVCSD expects capacity to be adequate to serve the Project combined with other anticipated projects as outlined in the *City of Sonoma 2020 General Plan*, and no significant cumulative impact would occur. The effect of the proposed Project on wastewater service, in combination with other past, present, and foreseeable projects, would be **less than significant**.

Electricity

For electricity, the geographic scope for assessing cumulative impacts consists of the PG&E distribution grid the Project is located on.

The proposed Project, in conjunction with other past, present, and reasonably foreseeable future projects, could result in a cumulative increase in electricity demands and the need for new or expanded facilities. As discussed in the above Project-specific analysis, the Project would only require a marginal amount of electricity. Therefore, it is not anticipated that the Project would contribute significantly to a cumulative impact related to insufficient electricity. The cumulative effect of the proposed Project on electricity supply would be **less than significant**.

Solid Waste

For solid waste disposal service, the geographic scope for assessing cumulative impacts consists of the service area for the landfills in the area.

Construction and operation of the proposed Project in conjunction with past, present, and reasonably foreseeable future projects, could result in a cumulative increase in construction and operation-related solid waste and debris. Implementation of state and local waste reduction and diversion requirements and programs has and would continue to reduce the potential for exceeding existing capacities of the regional landfills, which still have adequate capacity. For these reasons, the effect of the proposed Project on solid waste disposal service, in combination with other past, present, and foreseeable projects, would be **less than significant**.

Significance *Less than Cumulatively Considerable (less than significant)*

Mitigation No mitigation is required.

4. Alternatives to Proposed Project

4.1 Introduction

This chapter presents the alternatives analysis for the Project. CEQA and the CEQA Guidelines require that an EIR “describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives” (CEQA Guidelines Section 15126.6[a]). In addition, an EIR must identify alternatives that were considered by the lead agency and were rejected as infeasible during the scoping process and should briefly explain the reasons underlying the lead agency’s determination (CEQA Guidelines Section 15126 [(c)]).

For ease of reference, the Project objectives identified in Chapter 2 (Project Description) are repeated below:

- Provide a multi-use facility, including ancillary facilities, on the high school campus to serve the needs of the Sonoma Valley High School community.
- Upgrade existing athletic facilities and fields at the SVHS Campus to improve physical education instruction and activities, as well as bring the facilities into conformance with contemporary standards, including replacement of the existing turf and track surfaces and installing state-of-the-art public address and lighting systems.
- Provide sufficient spectator seating to accommodate current high school activities at the campus.
- Eliminate the need for use of off-campus facilities for Sonoma Valley High School sports practice, home games, and graduation events.
- Improve emergency access and circulation through the Project site.
- Modernize the Project site for ADA accessibility.

One of the alternatives analyzed must be the “No Project” alternative. CEQA Guidelines Section 15126.6(e)(1) states that the purpose of describing and analyzing the No Project alternative is “to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.” The No Project analysis is required to “discuss the existing conditions at the time the notice of preparation is published...as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services (Section 15126.6[e][2]).

The alternatives are described and analyzed below, followed by a matrix (Table 4-1) that compares the impacts of the alternatives to that of the Project. Section 4.2.5 also includes a description of those alternatives that were considered but not carried forward in the analysis.

4.2 Alternatives Considered but Not Carried Forward in This EIR

During the preliminary planning of the Project and the scoping process for the EIR, alternatives to the Project were evaluated and/or suggested. These alternatives, summarized below, were evaluated to determine if they met the qualifications for alternatives, as required under CEQA.

In accordance with CEQA requirements, to warrant consideration in an EIR, an alternative must meet the following three criteria: 1) the alternative would attain most of a project's basic objectives; 2) the alternative would avoid or substantially reduce one or more of the significant environmental impacts of the proposed project; and 3) the alternative is potentially feasible. An EIR need not analyze an alternative whose impact cannot be reasonably ascertained and whose implementation is remote and speculative. Furthermore, an EIR need not consider every conceivable alternative, but must consider a reasonable range of alternatives that will foster well-informed decision-making and public participation.

4.2.1 Reduced Bleacher Seating

During the scoping process, a commenter suggested that smaller-capacity bleachers be considered for the track & field. At the time the Notice of Preparation was issued, the conceptual plan included a 2,500-seat bleacher system. The District considered this alternative and subsequently incorporated a reduced bleacher system that accommodates 1,300 attendees into the conceptual plan as it would accommodate typical attendance at most of the athletic events (see Table 2-2). As the proposed Project analyzed in this EIR now incorporates a reduced-size bleacher system compared to the original system presented during the EIR scoping process, an alternative that considers further reduction in capacity seating is not evaluated further in this EIR.

4.2.2 Natural Grass Field

A natural grass field was considered during the preliminary planning process for the renovations to the existing SVHS track & field, and was suggested as an alternative to the Project during the scoping period for this EIR. The current fields at the SVHS Campus are natural turf fields. The Project proposes a synthetic turf within the track & field complex and reconstructed natural grass fields for the softball, baseball, and open field. The District considered this design suggestion, however, no significant environmental effects have been identified in this EIR that would be avoided or substantially reduced by using a natural grass field within the track & field complex. Additionally, one reason for proposing the synthetic turf for the Project is that the existing natural turf fields cannot be used for some portion of the year for practices, games and events due to wet conditions, whereas, a synthetic turf allows for use throughout the school year regardless of weather. Therefore, the alternative was not evaluated further in this EIR.

4.2.3 Realign Nathanson Creek Trail

During the scoping process, one commenter suggested the Project include realignment of the existing Nathanson Creek Trail from its current location to a point slightly east such that it would be farther from the creek. The District considered this design suggestion; however, no impacts were identified that would be reduced or avoided by moving the trail, and realignment of the trail would involve construction activity within the riparian corridor, which the Project avoids as proposed. After reviewing the potential realignment, it was determined that moving the Nathanson Creek Trail would be more environmentally damaging than the proposed Project in relation to potential construction-related impacts to aquatic and biological resources and thus the alternative would not offer any environmental advantage over the Project. Therefore, the alternative was not evaluated further in this EIR.

4.3 Analysis of Alternatives

This section describes the Project alternatives that were developed and analyzed in accordance with CEQA Guidelines Section 15126.6(a). As described above, several potential alternatives were evaluated, but were not carried forward in this EIR. The alternatives that are evaluated further in this EIR include the required No Project Alternative and a No Track & Field Lighting Alternative.

4.2.4 No Project Alternative

Description

Under a No Project Alternative, the existing SVHS athletic facilities would not be renovated. The existing track would continue to not meet current league standards, and therefore SVHS would not host home meets. SVHS athletic games and special events including soccer games, football games, baseball games, lacrosse games, cheer games, and senior graduation ceremonies would continue to be held at various off-campus locations (Adele Harrison Middle School, Arnold Field, and Field of Dreams), including bussing of athletes to those locations.

Analysis

The impacts of the No Project Alternative on the environment would be less as compared to the Project. With the No Project Alternative, construction and operational visual changes to the renovation area would not occur. While the analysis of lighting impacts for the Project determined that there would not be a significant effect related to new light sources, glare, or light trespass, under the No Project Alternative there would be no new sources of nighttime light or glare.

Noise-generating activities on the Project site would remain the same as existing conditions. There would be no new noise sources, such as a public address system, and no increased number of spectators and sports activities, graduation ceremonies, etc., on the Project site. In addition, the No Project Alternative would not involve new traffic-generating activities at the Project site. The events presented in Table 2-1 (Existing Athletic and Special Events) would remain in their current locations, many of which occur off-campus at Adele Harrison Middle School, Arnold Field, and Field of Dreams. Noise, traffic and night lighting in the off-site neighborhoods would continue, including the need for bussing of SVHS athletes to and from the off-site locations.

Potential impacts requiring mitigation to biological resources would be avoided, as the No Project Alternative would not involve tree removals or have any construction activities that would potentially disturb nesting bird species utilizing trees in the immediate vicinity of construction, or that would impact water quality in Nathanson Creek. There would be no impact to any known or potential cultural or tribal cultural resources within the renovation area, including inadvertent discovery.

The No Project would conflict with the SVHC Facilities Master Plan, which seeks to improve the SVHS Campus athletic fields with a new track & field, seating, team rooms, restrooms, concessions building, and new and modernized fields. Under the No Project Alternative, the benefits to recreation from renovated athletic facilities would not occur and Project objectives would not be realized. Stormwater from the Project area would also continue to discharge directly to Nathanson Creek absent the benefit of retention and treatment in a biofiltration/detention basin as proposed under the Project.

4.2.1 Alternative 1: No Track & Field Lighting

Description

Under Alternative 1, the renovations as described in Chapter 2 (Project Description) would occur with the exception that the sports lighting around the perimeter of the renovated track & field complex would not be installed. Arnold Field would remain the venue for nighttime games or events (approximately 50 events per year), or nighttime games would be rescheduled to occur during daylight hours on weekends.

Analysis

Under Alternative 1, Project impacts would remain the same as the proposed Project with the following exceptions. Since Alternative 1 would not include sports lighting, no new sources of nighttime light or glare would be introduced into the area. While the analysis of lighting impacts for the Project determined that there would not be a significant effect related to new light sources, glare, or light trespass, under Alternative 1 there would be no new sources of nighttime light or glare at all.

Without nighttime lighting, events held at the SVHS Campus would occur during daylight hours. Thus, operational noise associated with events would be limited to daylight hours. Traffic related to the 1,500-person (Friday night football plus 200-person concurrent event) analyzed for the Project would either remain at Arnold Field or occur on-campus during the day on Saturday (if the league allowed games to be played during the day), while the 2,500-attendee event associated with graduation would remain the same as analyzed for the Project. Therefore, Alternative 1 would lessen nighttime related effects to aesthetics, noise, and traffic at the Project site compared to the proposed Project. Existing nighttime related effects would continue at Arnold Field and the surrounding neighborhoods near 1st Street East. Bussing off-campus for certain events could still occur, therefore the transportation-related air and greenhouse gas emission reductions that could occur with the Project would not be realized with Alternative 1.

Alternative 1 would attain most of the basic objectives of the Project. Two Project objectives that would not be directly met is the goal of eliminating the need for use of off-campus facilities for SVHS sports practice, home games, and graduation events, and upgrading existing facilities to include state-of-the-art lighting system. Under Alternative 1, unless all nighttime games or special events could be rescheduled to occur during daylight hours on weekends, the off-campus facilities at Arnold Field would remain necessary for SVHS events. In addition, boys and girls soccer, which is now a winter sport with evening games, would not be able to host any “home” games on campus, with all games hosted at other league-participating high schools.

4.2.2 Comparison of Alternatives

Table 4.1 (Comparison of Alternatives) compares the impacts of the Project, No Project Alternative and Alternative 1 for each impact category.

Table 4-1 Comparison of Project and Alternatives

Impact Category	Project	No Project Alternative	Alternative 1
Aesthetics	Aesthetic impacts, including new sources of light or glare, would be less than significant.	No visual change would occur. Nighttime events would continue to occur at Arnold Field, or elsewhere.	Same as proposed project; with exception that no impact would occur from light poles and nighttime lighting at Project site. Nighttime events would continue to occur at Arnold Field, or elsewhere, or be rescheduled to occur during daylight hours.
Air Quality	Air quality impacts would be less than significant after mitigation and occur as a result of Project construction (e.g. use of heavy machinery).	No air quality impacts or emissions would occur. Bussing of students to off-site events would continue.	Same as proposed Project for construction. More than proposed Project and less than No Project for operation. Some bussing of students to off-site events could continue.
Biological Resources	Mitigation measures would be implemented to ensure biological and aquatic resources were protected with an emphasis on the Nathanson Creek riparian corridor. Impact from nighttime lighting would be less than significant.	No biological impacts would occur.	Same as proposed Project; with exception that no impact from nighttime lighting would occur.
Cultural and Tribal Cultural Resources	Impacts to cultural and tribal resources would not occur. Inadvertent discovery protocols would be implemented to protect any uncovered resources not identified by the Project's cultural resource investigation and related tribal consultation.	No cultural or tribal resource impacts would occur.	Same as proposed Project.
Geology and Soils	Impacts to geologic and soil resources would be less than significant.	No changes to geologic or soil resources would occur.	Same as proposed Project.
Greenhouse Gas Emissions and Energy	Impacts to greenhouse gas emissions and energy would be less than significant.	No greenhouse gas emissions or energy impacts would occur. Bussing of students to off-site events would continue.	Same as proposed Project for construction. More than proposed Project and less than No Project for operation. Some bussing of students to off-site events could continue. Energy related to lighting would be eliminated.

Impact Category	Project	No Project Alternative	Alternative 1
Hazards and Hazardous Materials	Impacts to hazards and hazardous resources would be less than significant.	No changes to hazards or hazardous materials would occur.	Same as proposed Project.
Hydrology and Water Quality	Impacts to hydrology and water quality would be less than significant.	No changes to hydrology would occur. Stormwater from the Project area would continue to discharge directly to Nathanson Creek absent the benefit of retention and treatment in a biofiltration/detention basin as proposed under the Project.	Same as proposed Project.
Land Use and Planning	Impacts to land use and planning would be less than significant.	No changes to land use and planning would occur.	Same as proposed Project.
Noise	Impacts from noise would be less than significant.	No changes to noise would occur. Nighttime events would continue to occur at Arnold Field, or would be rescheduled to occur during daylight hours at the Project site.	Same as proposed Project, except noise impacts would occur during daylight hours.
Public Services and Recreation	Impacts to public services would be less than significant. The Project would benefit recreation.	No recreational benefits would occur.	Same as proposed Project. Nighttime events would continue to occur at Arnold Field, or would be rescheduled to occur during daylight hours.
Transportation	Impacts to transportation would be less than significant, as standards would only be exceeded twice per year (homecoming and graduation).	No changes to transportation would occur. Nighttime events would continue to occur at Arnold Field, or would be rescheduled to occur during daylight hours.	Same as proposed Project; with the exception of Homecoming. 2,500-attendee graduation event would occur on-campus.
Utilities	Impacts related to utilities would be less than significant.	No changes to utilities would occur.	Same as proposed Project.

5. Other CEQA Considerations

5.1 Environmental Issues Determined Not to Be Significant

CEQA Guidelines Section 15128 requires an EIR to briefly describe any possible significant effects that were determined not to be significant and were, therefore, not discussed in detail in the EIR. For the purposes of this Draft EIR, an evaluation of agriculture and forestry resources, mineral resources, population and housing, and wildfire were eliminated from further evaluation during scoping for the reasons presented below.

5.1.1 Agriculture and Forestry Resources

The Project site does not include any Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or land covered by a Williamson Act contract (CDC 2016, CDC 2013). In addition, the Project site is not zoned for agricultural, forest land, or timberland, nor are there any agricultural or forest lands within the site (City of Sonoma Zoning 2018). No impact to agriculture or forestry resources would occur.

5.1.2 Mineral Resources

The Project is located on an existing developed school site. Construction of the Project would not result in the loss of a known mineral resource or availability of a locally-important mineral resource recovery site as delineated on a land use plan, such as a local general plan or a specific plan. Neither the California Department of Conservation Special (CDC 2013b) nor the Sonoma County Aggregate Resource Management (ARM) Plan (Sonoma County 2010) designate the Project site as having a known mineral resource. No impact to mineral resources would occur.

5.1.3 Population and Housing

The Project includes renovations to the athletic fields of an existing school and would not change the capacity of the school or increase the student population. The renovations would not induce population growth, or displace or remove existing housing or people. No impact would occur. For further discussion of the Project's growth-inducing impacts, refer to Section 5.4 below.

5.1.4 Wildfire

The Project site is not located in or near a State Responsibility Area (SRA) or lands classified as very high fire severity zones. The Project is located 0.8 miles from an SRA and more than 2.5 miles from lands classified as a very high fire hazard severity zone (CalFire FHSZ Viewer 2019). Therefore, the CEQA Guidelines Appendix G Checklist section for wildfire is not applicable to the Project. However, impacts related to potential exposure of people or structures to risks involving wildland fires is further evaluated in this Draft EIR in Section 3.7 (Hazards and Hazardous Materials).

5.2 Significant Unavoidable Effects

Section 2100(b)(2)(A) of CEQA and Section 15126.2(b) of the CEQA Guidelines require identification of significant environmental effects that cannot be avoided if the proposed Project were implemented. Significant unavoidable impacts are those impacts that remain significant after implementation of mitigation (i.e., impacts that cannot be reduced to a level of insignificance). The analysis of

environmental impacts for the proposed Project did not identify any significant unavoidable effects. While the Project has the potential to result in significant environmental impacts, all of the significant effects can be mitigated to a less-than-significant level.

5.3 Significant Irreversible Environmental Changes

Section 21100(b)(2)(B) of CEQA requires that an EIR include a discussion of significant irreversible environmental changes that would result from Project implementation. CEQA Guidelines Section 15126.2(d) describes irreversible environmental changes in the following manner:

“Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.”

Construction activities associated with the Project would result in an irretrievable and irreversible commitment of non-renewable resources through the use of construction materials. This would include the use of fossil fuels (such as gasoline, diesel and oil) during the construction period, and the use of earth minerals and ores (such as concrete and steel). The Project would renovate existing athletic facilities; therefore, the Project would not modify regional access or result in access to a previously inaccessible area. As a proposed public school athletic facility renovation, the Project is not representative of a land use type that would result in accidents that could lead to irreversible environmental damage. Overall, given the Project’s low consumption of irretrievable resources, such commitment is justified.

5.4 Growth-inducing Impacts

CEQA requires that the EIR evaluate the growth-inducing impacts of the Project. CEQA Guidelines Section 15126.2(e) describes growth-inducing impacts in the following manner:

“Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.”

The Project would not expand the footprint of the existing SVHS Campus and athletic facilities. The Project would not contribute directly or indirectly to the growth of the student population, result in a substantial demand on community service facilities, or result in the need for new or physically altered public facilities (see Section 3.11 [Public Services and Recreation]). Students and staff reside in existing housing that is serviced by existing fire, police, school, and park facilities. The Project is located within the City of Sonoma limits and in an area of previous development. The Project would not expand or modify regional roadways, highways, water or wastewater treatment facilities, water supplies, or otherwise remove an obstacle to population growth. The Project would not result in the provision of access to a previously inaccessible area. Therefore, the Project would not induce population growth and does not include characteristics that encourage or facilitate other growth-inducement activities.

5.5 Environmentally Superior Alternative

If it is determined that the No Project Alternative would be the environmentally superior alternative, then the EIR shall also identify an environmentally superior alternative among the other Project alternatives (Section 15126.6[e][2]). For reference, significance is determined based on substantial or potentially substantial adverse changes of any of the physical environmental conditions due to the Project. The degree of change is evaluated against existing environmental conditions. Please refer to Chapter 4, Alternatives to the Proposed Project, for a comparison of the primary differences in environmental impacts among the alternatives and the Project.

Even though the No Project Alternative does not meet the Project objectives and would conflict with the SVHC Facilities Master Plan, which seeks to improve the SVHS Campus athletic fields with a new track & field, seating, team rooms, restrooms, concessions building, and new and modernized fields, it would be the Environmentally Superior Alternative in that it has the fewest significant impacts.

As one alternative remains, a selection of an Environmentally Superior Alternative cannot be made, but by default would be Alternative 1. Therefore, the following analysis compares the advantages and disadvantages of Alternative 1 with the Project.

Neither the proposed Project nor Alternative 1 (No Track & Field Lighting) would result in significant and unavoidable impacts to any of the environmental resource areas analyzed in this Draft EIR. Impacts that can be reduced to less than significant with mitigation would be the same (see Table 4-1 in Section 4).

Alternative 1 has two slight advantages to the Project under the technical topics of aesthetics and transportation. The analysis of aesthetic impacts for the Project determined that the overall character and use of the fields would not change and the more prominent Project features, such as the light poles, bleachers, and press box would not obstruct views of the Sonoma Mountains, surrounding hillsides, or riparian corridor. The analysis of lighting impacts also determined that no glare would spread onto the adjacent properties or roadways and that the light spill at the Project property line would be minimal and less than significant. In comparison, Alternative 1 would not include lighting, therefore it would not result in any new source of nighttime light or glare in the Project vicinity. In addition Alternative 1 would presumably include only one 2,500-attendee event instead of two, as homecoming would likely remain at Arnold Field.

The disadvantage of Alternative 1 is that some events would still be required to occur off-campus and thus the benefits that would occur, with the Project, to air quality and greenhouse gas emissions from reduced travel would not be realized. In addition, two of the six Project objective would not be

met: eliminating the need for use of off-campus facilities for SVHS sports practice, home games, and graduation events, and upgrading existing facilities to include state-of-the-art lighting system. Thus the Project has three advantages over Alternative 1 in that it could reduce greenhouse gas emissions and energy use related to transportation, and it meets all the Project objectives.

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7. List of Preparers

7.1 Sonoma Valley Unified School District (Lead Agency)

- Bruce Abbott, Associate Superintendent
- Tenaya Dale, Counterpoint, Project Manager

7.2 GHD (Environmental)

- Chryss Meier, Senior Environmental Planner
- Kristine Gaspar, Senior Environmental Planner,
- Brian Bacciarini, Senior Environmental Scientist
- Haley Cahill, Environmental Planner
- Marlys Jeane, Environmental Planner
- Andrea Hilton, Environmental Planner
- Elissa Overton, Project Coordinator
- Renee Remillard, Graphic Designer

7.3 Technical Consultants

- Brelje & Race, Design Team
- Carducci & Associates, Design Team
- Illingworth and Rodkin, Noise
- Quattrocchi Kwok Architects, Design Team
- Sonoma State University Anthropological Studies Center, Cultural Resources
- Valerius Environmental Consulting, Wetland Resources
- W-Trans, Transportation