DRAFT ENVIRONMENTAL IMPACT REPORT

OE3 TRAINING CENTER

Control Number: PLNP2017-00199
State Clearinghouse Number: 2019029097
September 11, 2020

COUNTY OF SACRAMENTO
OFFICE OF PLANNING AND ENVIRONMENTAL REVIEW
827 7TH STREET, ROOM 225
SACRAMENTO, CALIFORNIA 95814

Board Of Supervisors

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4th District: Sue Frost

5th District: Don Nottoli

County Executive

Nav Gill, County Executive

Prepared By

County of Sacramento
Office of Planning and Environmental Review

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This Environmental Impact Report has been prepared pursuant to the California Environmental Quality Act of 1970 (Public Resources Code Division 13). An Environmental Impact Report is an informational document which, when this Office requires its preparation, shall be considered by every public agency prior to its approval or disapproval of a project. The purpose of an Environmental Impact Report is to provide public agencies with detailed information about the effect that a proposed project is likely to have on the environment; to list ways in which any adverse effects of such a project might be minimized; and to suggest alternatives to such a project.

Prepared by the
COUNTY OF SACRAMENTO
OFFICE OF PLANNING AND ENVIRONMENTAL REVIEW
827 7TH STREET, ROOM 225
SACRAMENTO, CALIFORNIA 95814
www.PER.saccounty.net

Office of Planning and Environmental Review
Leighann Moffitt, Director

County Executive
Navdeep S. Gill

September 11, 2020

TO: All Interested Parties

SUBJECT: DRAFT ENVIRONMENTAL IMPACT REPORT FOR OE3 TRAINING CENTER (CONTROL NUMBER: PLNP2017-00199)

The subject Draft Environmental Impact Report (DEIR) is attached for your review and comment. The DEIR can also be reviewed at:
https://planningdocuments.saccounty.net/ViewProjectDetails.aspx?ControlNum=PLNP2017-00199

Reviewers should focus on the sufficiency of the DEIR in discussing possible impacts upon the environment, ways in which adverse effects might be minimized, and alternatives to the proposed project. Reviewers who wish to comment on the adequacy of this DEIR are urged to submit written or emailed comments to the Sacramento County Department of Community Development by close of business on October 26, 2020 at the address below:

Todd Smith, Interim Environmental Coordinator
Office of Planning and Environmental Review
827 7th Street, Room 225, Sacramento, CA 95814
or via e-mail at: CEQA@saccounty.net.

A public hearing on the OE3 Training Center project will be held by the Sacramento County Planning Commission at the Board of Supervisors Chambers, at 700 H Street in Sacramento. A notice of the date and time of the public hearing will be provided by the hearing body authorized to conduct the public hearing for the proposed project. Interested individuals may check the materials for upcoming hearings on the website of the Planning Commission at:

http://www.sccob.saccounty.net/Pages/CCPCPublicMeetings.aspx

For questions about the project, please contact Leanne Mueller of this office at (916) 874-6155 or muellerl@sacccounty.net.

Sincerely,

[Original Signature on File]

Todd Smith,
Interim Environmental Coordinator

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1 EXECUTIVE SUMMARY

The subject of this Environmental Impact Report (EIR) is a project known as Operating Engineers Local 3 (OE3) Training Center. The project site is located in the Cosumnes community of unincorporated Sacramento County. The project site is located 13800 Meiss Road in the town of Sloughhouse.

PROJECT SUMMARY

OE3 is seeking approval of a new use permit to build and operate a new campus and continue equipment training activities. This use permit proposes to replace the existing mining use permit to allow a new training center that includes (1) construction and operation of a new campus facility and (2) allowance for field instruction in construction equipment on the property.

The new OE3 training center will be located on approximately 450 acres within the 1,500 project site. Approximately 25 of the 450 acres will be used for the campus and associated facilities. The campus uses will be the same as those that currently occur at the Rancho Murieta Training Center. The campus will include administrative offices, classrooms, parking areas, and landscaping. The campus population will not exceed approximately 20 administrative personnel and faculty and 80 students during peak training periods.

Approximately 425 of the 450 acres will allow for expanded equipment movement and field instruction currently unavailable at the existing Rancho Murieta Training Center. Field instruction includes training students to use various pieces of mobile construction equipment by simulating real-world construction activities. Only 80 acres will be subject to field training activities at a time, with the remainder lying fallow for cattle grazing on a rotational basis. Rotation will occur approximately every 5 years. Currently, field instruction activities take place on approximately 90 acres.

The remaining 1,050 acres on-site may be permanently preserved depending on acceptance by State and federal permitting agencies. On-site preservation may occur in two locations: (1) The eastern portion of the site may be used to mitigate project-related biological impacts, if accepted by State and federal permitting agencies. (2) The western portion of the site may be permitted as a mitigation bank or similar land conservation depending on acceptance by agencies. To maximize habitat values, OE3 may enhance or create habitat on portions of the property, which will require some equipment movement and surface disturbance within the preservation areas. Sacramento County is not requiring on-site preservation as part of this project.

EIR SCOPE AND ISSUES EVALUATED

As an initial step in the environmental review process, issues identified in the Environmental Checklist of Appendix G of the CEQA Guidelines were considered to determine whether the Project would have the potential to result in significant impacts associated with each issue. During the Notice of Preparation (NOP) scoping process comments were received from the following agencies:

- California Department of Fish and Wildlife (CDFW)
- Regional Water Quality Control Board (RWQCB)
- Sacramento Metropolitan Air Quality Management District (SMAQMD)

The comments from CDFW detailed the potential for sensitive habitats and species at the project site and recommended the evaluation of potential impacts in the EIR. SMAQMD recommended the DEIR identify and analyze potential feasible mitigation measures to reduce pollutants and greenhouse gas emissions. Finally, RWQCB comments detailed the potential permits that may be required from RWQCB for the proposed project.

The initial review determined that the Project would not result in significant adverse impacts associated with the following resource topics and eliminated these issues from further consideration in the EIR:

- Aesthetics
- Mineral Resources
- Population and Housing
- Public Services
- Land Use and Planning
- Geology and Soils
- Hazards and Hazardous Materials
- Recreation
- Utilities and Services Systems
- Traffic and Transportation

While CEQA does not require preparation of an Initial Study when the lead agency elects to prepare an EIR (CEQA Guidelines §15060(d)), the County has prepared an Environmental Checklist Form / CEQA Initial Study to substantiate its scoping process in evaluating the potential significance of the Project regarding the Appendix G criteria discussed above. The evaluation regarding the significance of those issues that are not discussed in detail in the EIR is provided in Chapter 12, the Initial Study Checklist.

Based on the results of the Initial Study the County identified the following resources areas could result in a potential environmental impact and should be evaluated in the Draft EIR.

- Agricultural Resources
- Air Quality and Greenhouse Gases
- Cultural Resources
- Hydrology and Water Quality

- Biological Resources
- Noise

The following environmental impact and mitigation summary table (*Table 1-1: Executive Summary of Impacts and Mitigation on page 1-2*) briefly describes the project impacts evaluated in the Draft EIR and the mitigation measures recommended to eliminate or reduce the impacts. The residual impact after mitigation is also identified. Detailed discussions of each of the identified impacts and mitigation measures, including pertinent support data, can be found in the specific topic sections in the remainder of this report.

Table 1-1: Executive Summary of Impacts and Mitigation

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
AGRICULTURAL LAND USE			
Conflict with Land Use Plans, Policies and Regulations Including the General Plan and Zoning Code The project is requesting a Use Permit for a private school including the construction of the of an education campus and field instruction area. The project site is currently under the regulations of a Use Permit for mining that expired in June 2019. The mining Use Permit requires the reclamation of the disturbed land to agricultural grazing land. Upon approval by the Board of Supervisors, the proposed Use Permit for a private school would override the approved reclamation plan and would be consistent with all applicable land use plans, policies and regulations.	LS	None recommended.	LS
Conflict with Existing Agricultural Use The project site consists of approximately 1,500 acres of grazing land in eastern Sacramento County. Approximately 1,400 acres are leased	LS	None recommended	LS

[1] PS = Potentially Significant S = Significant SU = Significant and Unavoidable LS = Less Than Significant

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
to local cattle ranchers. The proposed project will permanently convert approximately 25 acres to non-agricultural uses. The applicant will continue to lease the remaining land surrounding the education campus and field instruction area to local ranchers. The proposed project will not conflict with existing agricultural uses.			
<u>Conflict with Williamson Act</u> The property is currently under a Williamson Act Contract set to non-renew in 2024. The proposed education campus is not a compatible use and the applicant is requesting to initiate Williamson Act cancellation on the 25 acre education campus. Further, the applicant proposes to re-enter into a new Williamson Act Contract on the remaining property except for one 80-acre field instruction area. The applicant has prepared the necessary analysis to make the findings to support the cancellation process. Upon Board of Supervisor's approval of requested cancellation, conflicts with the Williamson Act are less than significant.	LS	None recommended.	LS
<u>Conversion of Farmland to Non-Agricultural Uses</u>	LS	None recommended.	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
The project is location in eastern Sacramento County outside of the Urban Service Boundary. The majority of the property is classified as grazing land according to the Sacramento County Important Farmlands Map. The area with active disturbance is classified as other land; however, it is considered grazing land in this analysis since the Mining Use Permit Reclamation Plan required the restoration of land to grazing land. The project will permanently convert 25 acres of grazing land to non-agricultural uses for the education campus. This does not exceed General Plan Policy AG-5 and impacts are less than significant.			
AIR QUALITY			
<u>Construction Emissions– Increase of Any Criteria Pollutant for which the Project Region is Non-Attainment</u> The project will involve the construction of a new 25-acre education campus which will release air pollutants (NO_x, ROG and Particulate Matter). Project specific modeling was completed to determine if the project exceeds Sacramento Metropolitan Air Quality Management District thresholds of significance. Modeling results indicate that construction	LS	None recommended.	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
emissions will not exceed thresholds established for NO_x and particulate matter.			
<u>Operational Emissions– Increase of Any Criteria Pollutant for which the Project Region is Non-Attainment</u> The completed education campus will introduce long-term emissions. Additionally, this project will be operating a heavy equipment field training similar to continual construction or mining activities. The existing field instruction activities are considered part of the CEQA baseline for determining project impacts. Modeling indicates that the proposed operational activities will not exceed thresholds established for NO_x, ROG and particulate matter.	LS	None recommended.	LS
<u>Mobile Source CO Emissions</u> The completed campus will introduce new vehicle trips to the local road system. None of the intersections in the area operate below an LOS of E or F and project-related traffic will not cause them to operate below LOS E or F.	LS	None recommended.	LS
<u>Expose Sensitive Receptors to Substantial Pollutant Concentrations</u> The only toxic air contaminant generated by the	LS	None recommended.	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
project is diesel particulate matter (DPM). Given the projects distance from surrounding receptors, prevalent wind direction, and topography DPM emissions will not exceed standards at surrounding receptors.			
BIOLOGICAL RESOURCES			
<u>Wetlands and Surface Waters</u> The project site contains 68.90 acres of potentially jurisdictional features, of which 4.40 acres may be directly impacted. The project applicant will need to obtain any and all permits from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish a Wildlife, and the Central Valley Regional Water Quality Control Board prior to any new ground disturbance.	S	**BR-1** In order to reduce impacts to wetland habitat the applicant shall comply with one or a combination of the following prior to every phase or rotation of the project: a. Where a Section 404 Permit has been issued by the U.S. Army Corps of Engineers, or an application has been made to obtain a Section 404 Permit, the Mitigation and Management Plan required by that permit or proposed to satisfy the requirements of the USACE for granting a permit may be submitted for purposes of achieving a no net-loss of wetlands. The required Plan shall be submitted to the Sacramento County Environmental Coordinator, U.S.	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		Army Corps of Engineers and U.S. Fish and Wildlife Service for approval prior to its implementation. b. If regulatory permitting processes result in less than a 1:1 compensation ratio for loss of wetlands, the project applicant shall demonstrate that the wetlands which went unmitigated/uncompensated as a result of permitting have been mitigated through other means. Acceptable methods include payment into a mitigation bank or protection of off-site wetlands through the establishment of a permanent conservation easement, subject to the approval of the Environmental Coordinator.	
<u>Swainson's Hawk Nesting Habitat</u> The project area is within ½ mile of recorded Swainson's Hawk nesting sites. The project site provides nesting habitat for the hawk and expanded use of the site would result in a potentially significant impact to nesting	PS	**BR-2** Initiation of ground disturbance (clearing and grubbing, grading, or construction) for campus building construction or opening of new, or reopening of, 80-acre field instruction area rotation shall be conducted between September 15 and March 1. If	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
Swainson's hawk. Preconstruction surveys will be required to determine if there are nesting Swainson's hawks on or within ½ mile of the project site.		new disturbance must be conducted during the nesting season, March 1 to September 15, a focused survey for Swainson's hawk nests on the site and within ½ mile of the site shall be conducted by a qualified biologist in accordance with the Swainson's Hawk Survey Protocol outlined in the Swainson's Hawk Technical Advisory Committee 2000 paper. Note that multiple surveys may be required depending on the timing of the surveys. If active nests are found, the California Department of Fish and Wildlife shall be contacted to determine appropriate protective measures, and these measures shall be implemented prior to the start of any ground-disturbing activities. If no active nests are found during the focused survey, no further mitigation will be required.	
<u>Swainson's Hawk Foraging Habitat</u> The project site provides foraging habitat for the hawk and development of the site would result in a potentially significant loss of that habitat. In total, the project will require 25 acres of mitigation to compensate for the loss of	S	**BR-3** Prior to any surface disturbance for campus building construction, such as clearing or grubbing, the issuance of any permits for grading, building, or other site improvements, implement one of the following options to mitigate for the loss of 25 acres of Swainson's hawk foraging habitat on the project	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
Swainson's hawk foraging habitat.		site: a. The project proponent shall utilize one or more of the mitigation options (land dedication and/or fee payment) established in Sacramento County's Swainson's Hawk Impact Mitigation Program (Chapter 16.130 of the Sacramento County Code). b. The project proponent shall, to the satisfaction of the California Department of Fish and Wildlife, prepare and implement a Swainson's hawk mitigation plan that will include preservation of Swainson's hawk foraging habitat. c. Should the County Board of Supervisors adopt a Swainson's hawk mitigation policy/program (which may include a mitigation fee payable prior to issuance of building permits) prior to the implementation of one of the measures above, the project proponent may be subject to that	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		program instead.	
<u>Nesting Raptors</u> Since the project area may provide suitable tree nesting habitat, construction activities may impact nesting raptors if they occur within 500 feet of suitable nesting trees. Impacts to nesting raptors may happen upon outset of building construction activities and upon a new 80-acre field training area being used. Pre-construction surveys for nesting raptors are required prior to construction or land clearing activities that occur during nesting season (generally March through mid-September), for all mature trees within 500 feet of project construction activities. For this project, construction activities associated with building construction may take place over multiple years and likewise every time the field training area is rotated, nesting surveys will need to be completed.	PS	**BR-4** If construction activity (which includes clearing, grubbing, or grading) is to commence within 500 feet of suitable nesting habitat between March 1 and September 15, a survey for raptor nests shall be conducted by a qualified biologist. The survey shall cover all potential tree and ground nesting habitat on-site and off-site up to a distance of 500 feet from the project boundary. The survey shall occur within 30 days of the date that construction will encroach within 500 feet of suitable habitat. The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Environmental Coordinator prior to ground disturbing activity. If no active nests are found during the survey, no further mitigation will be required. If any active nests are found, the Environmental Coordinator and California Fish and Wildlife shall be contacted to determine appropriate avoidance/protective measures. The avoidance/protective measures shall be implemented prior to the	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		commencement of construction within 500 feet of an identified nest. Appropriate avoidance/protective measures may include, but are not limited to the following: Project activities related to campus building construction or opening of new, or the reopening of, 80-acre field instruction area activities (such as vegetation removal, grading, or initial ground-disturbing activities) with the potential to adversely affect nesting birds shall be conducted between September 1 and January 31 (outside of the September 15 to January 31 nesting season) to the extent feasible. If such activities must be conducted during the nesting season, a pre-disturbance nesting-bird survey of potential nesting habitat (i.e., grasslands, shrubs, trees, snags and open ground) shall be conducted by a qualified biologist no more than 14 days prior to vegetation removal or	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		initial ground disturbance. Because typical buffer distances are 100-250 feet for unlisted raptors, the survey shall include the disturbance area and surrounding 250 feet to identify the location and status of any nests that could potentially be affected either directly or indirectly by Project activities. If active nests of protected species are found within the survey area and breeding and fledging success may be affected, a work exclusion zone shall be established around each nest by a qualified biologist. Established exclusion zones shall remain in place until all young in the nest have fledged or the nest otherwise becomes inactive (e.g., due to predation). Appropriate exclusion zone sizes shall be determined by a qualified biologist and may vary dependent upon bird species, nest location, existing visual buffers, noise levels, and other factors (an exclusion zone radius	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		may be as small as 50 feet for common, disturbance-adapted species or as large as 250 feet or more for raptors). Exclusion zone size may be reduced from established levels if supported with nest monitoring findings by a qualified biologist indicating that work activities outside the reduced radius are not adversely impacting the nest. The survey shall occur no more than 14 days prior to the date that construction will encroach within 500 feet of suitable habitat. The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Environmental Coordinator prior to ground disturbing activity. If no active nests are found during the survey, no further mitigation will be required.	
<u>Burrowing Owl</u> Burrowing owls may use a site for breeding,	PS	**BR-5** Prior to campus building construction or opening of new, or the reopening of, 80-acre field instruction area activities	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
wintering, foraging, and/or migration stopovers. The nearest recorded burrowing owl is located ½ mile to the east. In order to reduce potential impacts to owl nests which may be undiscovered, the applicant shall have a qualified biologist perform a focused survey, prior to the construction of improvements or buildings, for burrowing owls.		(which includes clearing, grubbing, or grading) within 500 feet of suitable burrow habitat, a survey for burrowing owl shall be conducted by a qualified biologist. The survey shall occur within 30 days of the date that construction will encroach within 500 feet of suitable habitat. Surveys shall be conducted in accordance with the following: a. A survey for occupied burrows and owls should be conducted by walking through suitable habitat over the area to be disturbed site and in areas within 150 meters (~500 feet) of the project impact zone. b. Pedestrian survey transects should be spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines should be no more than 30 meters (~100 feet), and should be reduced to account for differences in terrain, vegetation density, and ground surface visibility. To efficiently survey projects larger than 100 acres, it is recommended that two or	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		more surveyors conduct concurrent surveys. Surveyors should maintain a minimum distance of 50 meters (~160 feet) from any owls or occupied burrows. It is important to minimize disturbance near occupied burrows during all seasons. c. If no occupied burrows or burrowing owls are found in the survey area, a letter report documenting survey methods and findings shall be submitted to the Environmental Coordinator and no further mitigation is necessary. d. If occupied burrows or burrowing owls are found, then a complete burrowing owl survey is required. This consists of a minimum of four site visits conducted on four separate days, which must also be consistent with the Survey Method, Weather Conditions, and Time of Day sections of Appendix D of the California Fish and Wildlife “Staff Report on Burrowing Owl Mitigation”	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		(March 2012). Submit a survey report to the Environmental Coordinator which is consistent with the Survey Report section of Appendix D of the California Fish and Wildlife "Staff Report on Burrowing Owl Mitigation" (March 2012). e. If occupied burrows or burrowing owls are found the applicant shall contact the Environmental Coordinator and confer with California Fish and Wildlife prior to construction, and will be required to submit a Burrowing Owl Mitigation Plan (subject to the approval of the Environmental Coordinator and in consultation with California Fish and Wildlife). This plan must document all proposed measures, including avoidance, minimization, exclusion, relocation, or other measures, and include a plan to monitor mitigation success. The California Fish and Wildlife "Staff Report on Burrowing Owl Mitigation" (March 2012) shall be	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		followed in the development of the mitigation plan.	
<u>Nesting Migratory Birds</u> The project also has the potential to affect non-special-status native nesting birds protected by the Migratory Bird Treaty Act and/or California Fish and Game Code. If the project causes a bird to abandon an active nest may cause harm to egg(s) or chick(s) and is therefore considered "take." To avoid take of nesting migratory birds, mitigation has been included to require that activities either occur outside of the nesting season, or to require that nests be buffered from construction activities until the nest or nesting tree becomes inactive.	PS	**BR-6** To Avoid impacts to nesting migratory birds the following shall apply: a. If construction activity (which includes clearing, grubbing, or grading) is to commence within 50 feet of nesting habitat between February 1 and August 31, a survey for active migratory bird nests shall be conducted no more than 14 day prior to construction by a qualified biologist. b. Trees slated for removal shall be removed during the period of September through January, in order to avoid the nesting season. Any trees that are to be removed during the nesting season, which is February through August, shall be surveyed by a qualified biologist and will only be removed if no nesting migratory birds are found. c. If active nest(s) are found in the survey area, a non-disturbance buffer, the size of which has	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		been determined by a qualified biologist, shall be established and maintained around the nest to prevent nest failure. All construction activities shall be avoided within this buffer area until a qualified biologist determines that nestlings have fledged, or until September 1	
<u>California Tiger Salamander</u> The project site supports suitable habitat for the California Tiger Salamander (CTS). Suitable habitat includes areas where water pools for at least 10 weeks, and upland area with rodent burrows. Project development will remove potential habitat and may involve possible take of the species. Mitigation requires that either the applicant mitigate for impacts to California tiger salamander or demonstrate absence of the species through two seasons of focused California tiger salamander surveys.	PS	**BR-7** Prior to surface disturbance in new field instruction areas, two seasons of focused California Tiger Salamander (CTS) surveys are required which follow U.S. Fish and Wildlife's "Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander" (October 2003), or the protocol current at the time of construction. a. If no CTS are found in the survey area, a letter report documenting survey methods and findings shall be submitted to the County for approval and no further mitigation is necessary. b. If CTS are found the applicant shall,	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		prior to any project related activity that would impact CTS habitat or the approval of grading or improvement plans, whichever comes first, contact the Environmental Coordinator and consult with U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife to develop a conservation program for CTS. At a minimum, any alternative mitigation strategy must result in 1:1 compensation of suitable breeding habitat and 1:1 compensation for all upland habitat within 500 feet of suitable breeding habitat, and must be approved by both U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife.	
<u>Vernal Pool Crustaceans</u> The project site contains vernal pool complexes and seasonal wetlands that support a variety of species. The following invertebrates exist or have a high potential to exist on the project site: California linderiella, midvalley fairy shrimp, Ricksecker's water scavenger beetle, vernal pool fairy shrimp, and vernal pool tadpole shrimp. All of these species are associated with vernal pool and wetland environments and are	PS	**BR-8** Presence of listed vernal pool crustaceans shall be assumed unless determinate surveys that comply with the U.S. Fish and Wildlife protocol "Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods" (published April 19, 1996) conclude that the species is absent. In order to reduce impacts to	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
not readily observed through casual observation. If suitable habitat is present, the species must be assumed to be present unless surveys have found the species to be absent.		listed vernal pool branchiopods and wetland habitat the applicant shall comply with one or a combination of the following: 1. *Total Avoidance: Species is present or assumed to be present.* Unless a smaller buffer is approved through formal consultation with the U.S. Fish and Wildlife, construction fencing shall be installed a minimum of 250 feet from the delineated wetland margin. All construction activities are prohibited within this buffer area. If total avoidance is achieved, no further action is required. 2. *Compensate for habitat removed.* Mitigate for all vernal pools consistent with the Programmatic Formal Endangered Species Act Consultation published on February 28, 1996 for vernal pool branchiopods, if the project qualifies. Also, obtain all applicable permits from the U.S. Fish and Wildlife, U.S. Army Corps of Engineers, California	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		Fish and Wildlife, and the Central Valley Regional Water Quality Control Board for the proposed modifications to on-site wetlands and mitigate for habitat loss in accordance with the published regulatory guidelines. If the project does not qualify for the programmatic consultation, separate consultation will be required for the project.	
<u>Valley Elderberry Longhorn Beetle</u> The project is not within a riparian area; however, there are elderberry shrubs on the project site. While there is strong survey evidence that the population of elderberry shrubs on the project site are not inhabited by VELB, their absence is not guaranteed since surveys and consultation consistent with the latest USFWS protocol has not be conducted. Prior to any new ground disturbance, the applicant will need to complete surveys per the recommended Conservation Guidelines and present findings to the USFWS to determine VELB impacts and any necessary mitigation.	PS	**BR-9** In order to reduce project impacts to the Valley Elderberry Longhorn Beetle (VELB) habitat to a less than significant level the following mitigation measures, consistent with U.S. Fish and Wildlife Service Conservation Guidelines for the Valley Elderberry Longhorn Beetle, will be required: 1. Conduct VELB surveys consistent with the latest U.S. Fish and Wildlife Service Conservation Guidelines prior to ground disturbance within 165 feet of an elderberry shrub. Consult with the U.S. Fish and Wildlife Service with survey results and obtain any permits as required through the consultation process. Consultation will be required	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		for the education campus and for each field instruction rotation area if not done comprehensively for the entire 456 acres disturbance area. If through consultation no permits are required, then mitigation is complete. 2. For construction prior to obtaining the applicable permits allowing removal of the elderberry plants, protective measures shall apply. Prior to initiating construction, the following measures shall be completed: a. Temporary construction fencing and flagging shall be installed at least 165 feet outside the edge of the driplines of the elderberry plants. In areas where encroachment on the 165-foot buffer has been approved by U.S. Fish and Wildlife Service, provide a minimum setback of at least 20 feet from the dripline of each elderberry plant and provide documentation of U.S. Fish and Wildlife Service approval of the reduced setback. b. Brief contractors on the need to	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		avoid damaging the elderberry plants and the possible penalties for not complying with these requirements. c. Erect signs every 50 feet along the edge of the avoidance area with the following information: "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines and imprisonment." The signs should be clearly readable from a distance of 20 feet, and must be maintained for the duration of construction. d. Instruct work crews about the status of the beetle and the need to protect its elderberry host plant.	
<u>Plants</u> The project site contains vernal pool and	PS	**BR-10** Prior to the first ground disturbance of each 80-acre field instruction rotation area, a rare plant survey shall be	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
seasonal wetland habitat that could provide suitable habitat for a variety of rare plants, Vernal pool-associated special-status plant species found in Sacramento County are: Ahart's dwarf rush, Boggs Lake hedge-hyssop, dwarf downingia, legenere, pincushion navarretia, Sacramento Orcutt grass, and slender Orcutt grass. Additional surveys will be required prior to ground disturbance since a comprehensive or protocol-level survey was not completed, and the significant passage of time (20 years) before some areas will be disturbed.		performed by a qualified botanist in accordance to the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* dated March 20, 2018, or the most recent CDFW rare plant survey protocols. Submit a written report to the Environmental Coordinator which describes the survey. The survey report should include a brief description of the vegetation, survey results (which includes a list of all species observed), photographs, time spent surveying, date of surveys, a map showing the location of the survey route and any rare plant populations and copies of any rare plant occurrence forms. If no rare plants are found, no further mitigation for plant species is required. If a special status plant or natural community is located, complete and submit to the CNDDB a California Native Species (or Community) Field Survey Form or equivalent written report. Total avoidance of habitats which contain rare plants shall be	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		required unless deemed infeasible by the Environmental Coordinator. If avoidance is infeasible, prior to construction within 250 feet of the vernal pool(s) which contain the rare plant occurrences, notify California Department of Fish and Wildlife and U.S. Fish and Wildlife Service and comply with any permit or mitigation requirements stipulated by those agencies. Submit copies of all such correspondence, including a copy of any required permits, to the Environmental Coordinator. Measures may include but are not limited to a preconstruction survey of all areas to be disturbed. If any special-status plant species are identified, the botanist will flag and Global Positioning System (GPS) the location. Impacts to special-status plant species shall be avoided to the maximum extent feasible and habitat that supports special-status plant species shall be preserved. If avoidance is not	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		feasible, perennial plant species shall be transplanted to suitable habitat and plant propagules shall be collected from annual plant species after maturity. Under the direction of the qualified botanist, plant propagules shall be harvested from at least 50 percent of plants that would be impacted by Project activities. Harvested plant propagules shall be stored for reintroduction into suitable habitat after restoration/creation activities are complete.	
<u>Sanford's Arrowhead</u> Rare plant surveys from 2007 and 2016 confirm the presence of Sanford's arrowhead on the project site. Since there are known occurrences on the project site, there is a potentially significant impact to Sanford's arrowhead. Therefore, protocol-level rare plant surveys for Sanford's arrowhead must be completed prior to ground disturbance of suitable habitat.	S	**BR-11** If Sanford's Arrowhead are found the botanist shall establish distribution of the colony(s) and estimate the number of individuals in the population. Unless deemed infeasible by the Environmental Coordinator, all plants or tuber/rhizomes shall be removed from the area of impact and transplanted to a new or existing preserve or, if the impact is temporary, replanted in the same location after the disturbance. Surveys shall be	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		performed annually at the transplant location for a period of three years, to ensure success. If survival is not meeting a minimum 60% survivorship, transplantation will be deemed failed. In cases where transplanting is deemed infeasible, or where transplanting has failed, compensatory mitigation shall be provided. Compensatory mitigation shall consist of placement of a conservation easement over a known, unprotected population of the species.	
<u>Conflict with Local Policies or Ordinances Protecting Biological Resources</u> The project site contains distinct areas of Fremont cottonwood woodland habitat. This habitat has been established in-between the rows of old mine tailings where water collects and shelters saplings from harsher elements. The project will impact approximately 40.39 acres of Fremont cottonwood woodland habitat for the proposed expansion of field instruction areas. The loss of Fremont cottonwood woodland habitat is significant.	S	**BR-12** Prior to impacts to native trees, a tree survey shall be conducted which records the species, DBH, and condition of all trees within areas of impact. The removal of native trees shall be compensated for by planting in-kind native trees equivalent to the dbh inches lost, based on the ratios listed below, at locations that are authorized by the Environmental Coordinator. On-site preservation of native trees that are less than 6 inches (<6 inches DBH), may also be used to meet this compensation requirement. Native trees include: valley oak (*Quercus lobata*), interior	L

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		live oak (Quercus wislizenii), blue oak (*Quercus douglasii*), or oracle oak (*Quercus morehus*), California sycamore (*Platanus racemosa*), California black walnut (Juglans californica, which is also a List 1B plant), Oregon ash (*Fraxinus latifolia*), western redbud (Cercis occidentalis), gray pine (*Pinus sabiniana*), California white alder (*Alnus rhombifolia*), boxelder (*Acer negundo*), California buckeye (*Aesculus californica*), narrowleaf willow (*Salix exigua*), Gooding's willow (*Salix gooddingii*), red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), shining willow (*Salix* lucida), Pacific willow (*Salix lasiandra*), Fremont's cottonwood (*Populus fremontii*), and dusky willow (*Salix melanopsis*). The replacement tree planting plan shall be completed prior to surface disturbance within a new phase. Compensation may include equivalent DBH for trees planted based on the following ratios: • one preserved native tree < 6 inches dbh on-site = 1 inch dbh	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		• one D-pot seedling (40 cubic inches or larger) = 1 inch dbh • one 15-gallon tree = 1 inch dbh • one 24-inch box tree = 2 inches dbh • one 36-inch box tree = 3 inches dbh Prior to surface disturbance within a new phase, a Replacement Tree Planting Plan shall be prepared by a certified arborist or licensed landscape architect and shall be submitted to the Environmental Coordinator for approval. The Replacement Tree Planting Plan(s) shall include the following minimum elements: 1. Species, size and locations of all replacement plantings and < 6-inch dbh trees to be preserved 2. Method of irrigation 3. If planting in soils with a hardpan/duripan or claypan layer, include the Sacramento County Standard Tree Planting Detail L-1, including the 10-foot deep boring	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		hole to provide for adequate drainage 4. Planting, irrigation, and maintenance schedules; 5. Identification of the maintenance entity and a written agreement with that entity to provide care and irrigation of the trees for a 3-year establishment period, and to replace any of the replacement trees which do not survive during that period. 6. Designation of 20-foot root zone radius and landscaping to occur within the radius of trees < 6 inches dbh to be preserved on-site. Replacement tree plantings shall be varied from a 10-foot minimum to a 40-foot maximum, averaging 25 feet apart, in a mosaic pattern that mimics existing Fremont cottonwood woodlands. No Replacement tree shall be planted within 15 feet of the driplines of existing oak trees or landmark size trees that are retained on-site or within 20 feet of the field	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		instruction areas. Native trees <6 inches dbh to be retained on-site shall have at least a 20-foot radius suitable root zone. The suitable root zone shall not have impermeable surfaces, turf/lawn, dense plantings, soil compaction, drainage conditions that create ponding (in the case of oak trees), utility easements, or other overstory tree(s) within 20 feet of the tree to be preserved. Trees to be retained shall be determined to be healthy and structurally sound for future growth, by an ISA Certified Arborist subject to Environmental Coordinator approval. If tree replacement plantings are demonstrated to the satisfaction of the Environmental Coordinator to be infeasible for any or all trees removed, then compensation shall be through payment into the County Tree Preservation Fund. Payment shall be made at a rate of $325.00 per dbh inch removed but not otherwise compensated, or at the prevailing rate at the time payment into the fund is made.	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
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 area is located within the boundary of the SSHCP, but is outside of the SSHCP Urban Development Area and is not a covered activity.	LS	None recommended.	LS
CLIMATE CHANGE			
Generate Greenhouse Gas Emissions that may Impact the Environment Implementation of the project would contribute to increases of GHG emissions that are associated with global climate change, primarily attributed to mobile (field equipment training) sources and utility usage (building operation, well operation). The heavy equipment used for field training ranges in age and some equipment has Tier Zero engines (most polluting). An assumption made in the technical report assumed Tier Zero engines would not operate more than three hours per day. Equipment operation is dependent on the training needed and it's rare all pieces of equipment are operating continuously. In a typical training scenario, only a subset of	LS	None recommended.	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
equipment is operating specific to the training class being taught. This use and equipment has been operating in the County for 45 years and on this property on a regular basis. The air quality and greenhouse gas analysis assumes a 15 percent increase in training activities above the baseline conditions that are currently operating at the site (communication with applicant A. White). With this assumption and application of Basic Construction Emission Control Practices (BCECP), project operations would result in 629 MT CO2e/year above the baseline condition. This would not exceed the SMAQMD screening threshold of 1,100 MT CO2e/year threshold, and no further analysis is required			
<u>Conflict with Plans, Policies, or Regulations Adopted to Reduce Greenhouse Gas Emissions</u> The project has been in operation for 45 years in the Sacramento Air Basin, and the emissions from this current operation constitute the baseline condition for this analysis. Further, the analysis assumes a 15 percent increase over the baseline which is conservative by assuming growth beyond the current operation. Combining this conservative analysis with increased regulation on engines and emissions over the next decade provides a very	LS	None recommended.	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
conservative assessment of project emissions. The project does not impede State or local policies of meeting 2020 or 2030 emission reduction The project will not contribute to a cumulatively significant impact			
CULTURAL RESOURCES			
<u>Historical Resources</u> A cultural resources survey was conducted for the entire project site. Prior surveys on the project site discovered two historical resources – gold dredge tailings and 20th century refuse pit. One new resources was discovered – old homestead site. Neither of the previously recorded resources qualify as historical resources under both the NRHP and CRHP. The newly recorded resource could potentially qualify as a historical resource under the NRHP or CRHP. The project will not impact the new historic-period archeological site as it is located in the West Preservation Area, but as with any project that involves the disturbance of soil, there is a potential of inadvertent discovery of subsurface historic deposits. Potentially significant impacts can be reduced with implementation of recommended mitigation.	PS	**CR-1 Cultural Resources Unanticipated Discovery** In the event that human remains are discovered in any location other than a dedicated cemetery, work shall be halted and the County Coroner contacted. For all other unexpected cultural resources discovered during project construction, work shall be halted until a qualified archaeologist may evaluate the resource encountered. 1. Pursuant to Sections 5097.97 and 5097.98 of the State Public Resources Code, and Section 7050.5 of the State Health and Safety Code, if a human bone or bone of unknown origin is found during construction, all work is to stop and the County Coroner and the Office of Planning and Environmental Review shall be immediately notified. If the remains are determined to be	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		Native American, the coroner shall notify the Native American Heritage Commission within 24 hours, and the Native American Heritage Commission shall identify the person or persons it believes to be the most likely descendent from the deceased Native American. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposition of, with appropriate dignity, the human remains and any associated grave goods. 2. In the event of an inadvertent discovery of cultural resources (excluding human remains) during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained at the Applicant's expense to evaluate the significance of the find. If it is determined due to the types of deposits discovered that a Native American monitor is required, the Guidelines for Monitors/Consultants of Native	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		American Cultural, Religious, and Burial Sites as established by the Native American Heritage Commission shall be followed, and the monitor shall be retained at the Applicant's expense. a. Work cannot continue within the 100-foot radius of the discovery site until the archaeologist and/or tribal monitor conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially eligible for listing on the National Register of Historic Places or California Register of Historical Resources. b. If a potentially-eligible resource is encountered, then the archaeologist and/or tribal monitor, Planning and Environmental Review staff, and project proponent shall arrange for either 1) total avoidance of the resource, if possible; or 2) test excavations or total data recovery as mitigation. The determination shall be formally	

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
		documented in writing and submitted to the County Environmental Coordinator as verification that the provisions of CEQA for managing unanticipated discoveries have been met.	
<u>Prehistoric Resources</u> The cultural resource inventories prepared for the majority of the project site did not identify known prehistoric resources. However, this does not preclude the possibility of buried prehistoric archaeological materials or previously undiscovered surface resources within the project area and therefore is potentially significant. Recommended mitigation measure CR-1 reduce impacts to less than significant.	PS	Implement Mitigation Measure CR-1.	LS
<u>Tribal Cultural Resources</u> Pursuant to the AB52 consultation process, response from Tribes did not identify a known sacred site or Tribal Cultural Resource; however, as with historic and pre-historic cultural resources, there is always the possibility of uncovering buried resources when ground disturbance is proposed. The United	PS	**CR-2 Native American Tribal Cultural Resources Monitor** A minimum of seven days prior to beginning "first-pass" earthwork or other first-time soil disturbance activities (construction of the education campus or for each new 80-acre field instruction area that has not been previously disturbed), the applicant shall notify	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
Auburn Indian Community requested the opportunity to conduct post-ground disturbance surveys within the first five days of any new ground disturbance. This would include when a new, 80-acre rotation for field training begins, or within the current rotation if the land has not been disturbed.		the County Environmental Coordinator of the proposed earthwork start-date, in order to provide the County with time to contact the United Auburn Indian Community (UAIC). A UAIC tribal representative shall be invited to inspect the project site, including any soil piles, trenches, or other disturbed areas, within the first five days of any new ground breaking activity. During this inspection, a site meeting of construction personnel shall also be held in order to afford the tribal representative the opportunity to provide tribal cultural resources awareness information. If Tribal Resources are discovered, refer to Mitigation Measure CR-1 on how to proceed.	
<u>Human Remains</u> There are no known human remain on the project site. However, the project will involve mass grading and there is always the potential to encounter unknown burials. If human remains are encountered, recommended mitigation measures CR-1 will reduce impacts to less than significant.	PS	Implement Mitigation Measure CR-1.	LS
HYDROLOGY AND WATER QUALITY			

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
<u>Substantially Alter Drainage Patterns that Would Result in Substantial Soil Erosion or Siltation On-or Off-Site</u> The project consists of the construction of a new education campus and expansion of the field instruction area. In existing disturbed areas, standard best management practices will ensure soil erosion impacts are less than significant. Each new expanded field instruction rotation area will need to have a detention basin to trap sediment-laden water during storm events so that the project would not result in siltation off-site. A grading permit will need to be obtained for each rotation area during which the current waste discharge identification number, best management practices and proposed size and placement of detention basins will ensure off-site siltation impacts are less than significant.	LS	None recommended.	LS
<u>Substantially Alter Drainage Patterns in a Manner Which Would Impede or Redirect Flood Flows or, Substantially Increase the Rate or Volume of Runoff that Would Result in Flooding</u> The project is within the Cosumnes River and Laguna Creek watersheds. This area of the County has not been studied to accurately identify the boundaries of the watersheds. While	PS	**HY-1 Local Floodplain** Prior to improvement plan submittal, at every rotation of the grading area and prior to obtaining building permits any structures provide a drainage study pursuant to current Hydrology Standards, Floodplain Management Ordinance, and Improvement Standards for review and approval by the Sacramento	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
there is no immediate risk to persons or structures off-site since the nearest receptor is ½ mile away, review of the on-site drainage reservoir and sedimentation basins are required to ensure adequate sizing and placement. Potentially significant impacts associated with flooding can be reduced to less than significant with proposed mitigation.		County Department of Water Resources (County DWR). The drainage study shall as a minimum: a. Include calculations for all required cross culverts along the proposed access road, and show no adverse impacts to the existing floodplain. b. Identify and/or design a controlled outlet/spillway for the existing "drainage reservoir" as shown on the preliminary utility plan. c. Determine the 100-year water surface elevation at the identified or designed outlet/spill way of the "drainage reservoir." d. Identify existing water shed boundaries and maintain existing hydrology. e. Maintain a minimum freeboard of two (2) feet in any retention basin or as required by existing local and State regulations.	
<u>Violate Water Quality Standards or Waste Discharge Requirements or Substantially Degrade Surface or Ground Water Quality</u> The project involves the operation of an education campus including maintenance and repair buildings, storage of fuels and lubricants,	LS	None recommended.	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
and disturbance of 80 acres of soil for heavy equipment training operations. Compliance with existing local, State, and federal regulations ensure that the project will not violate water quality standards or waste discharge requirements.			
<u>Substantially Decrease Groundwater Supplies or Interfere Substantially with Groundwater Recharge or Conflict or Obstruct with a Groundwater Management Plan</u> The project is within the Sloughhouse Resource Conservation District which filed to be a Groundwater Sustainability Agency (GSA) in April 2016. A Groundwater Sustainability Plan has not been filed with the State. The project is not connected to and will not connect to a public water system and all water supplied to the project is groundwater. The project will incrementally add to local groundwater consumption within the Cosumnes groundwater basin, but not to a level that will significantly decrease groundwater supply.	LS	None recommended.	LS
<u>Create of Contribute to Runoff Water that would Exceed the Capacity of Stormwater Drainage Systems or Proved Substantial Additional Sources of Polluted Runoff</u> The project is not proposing a significant	LS	Implement mitigation measure HY-1 Local Floodplain.	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
amount of impervious surfaces and all stormwater runoff would be maintained on-site by grading the site to drain towards retention basins proposed within the campus area and in each training area. If retention basins are not sized correctly they may overflow and drain off-site. Review and approval during the improvement plan or building permit process will ensure impacts remain less than significant.			
Increase Potential Release of Pollutants Due to Flood Hazard, Tsunamis, or Seiches or Develop within and Area Subject to 200-year Urban Levels of Flood Protection The project is not located within an area that is subject to the 100-year flood hazard area or the 200-year urban levels of flood protection, nor is it subject to inundation due to a tsunami or seiche.	LS	None recommended.	
NOISE			
Generate Substantial Temporary or Permanent Increase in Ambient Noise Levels in Excess of Standards in the General Plan or Noise Ordinance Expose People Residing or working in the Project Area to Excessive Airport Noise Levels	LS	None recommended.	LS

Impacts	Level of Significance Before Mitigation [1]	Mitigation Measure	Level of Significance After Mitigation
The closest airport is approximately 3 miles from the project site and will not result in an impact to student or faculty at the campus.			
<u>Generation of Excessive Groundborne Vibration or Noise Levels</u> Mobile equipment movement will not result in excessive groundborne vibration levels above baseline conditions at the nearest receptors.	LS	None recommended.	LS

MITIGATION MONITORING AND REPORTING PROGRAM

It shall be the responsibility of the project applicant/owner to comply with the Mitigation Monitoring and Reporting Program (MMRP) for this project and to reimburse the County for all expenses incurred in the implementation of the MMRP, including any necessary enforcement actions. The MMRP fee for this project is $16,000.00. This fee includes administrative costs of $900.00, which must be paid to the Office of Planning and Environmental Review prior to recordation of the MMRP and prior to recordation of any final parcel or subdivision map. The remaining balance will be due prior to review of any plans by the Environmental Coordinator or issuance of any building, grading, work authorization, occupancy or other project-related permits.

TERMINOLOGY USED IN THIS EIR

This Draft EIR uses the following terminology to describe environmental effects of the project.

Significance Criteria. A set of criteria used by the lead agency to determine at what level, or "threshold," an impact would be considered significant. Significance criteria used in this EIR include those that are set forth in the CEQA Guidelines, or can be discerned from the CEQA Guidelines; criteria based on factual or scientific information; criteria based on regulatory standards of local, state, and federal agencies; and criteria based on goals and policies identified in the Sacramento County General Plan.

Less than Significant Impact. A project impact is considered less than significant when it does not reach the standard of significance and would therefore cause no substantial change in the environment. No mitigation is required for less-than-significant impacts.

Potentially Significant Impact. A potentially significant impact is a substantial, or potentially substantial, adverse change in the environment. Physical conditions which exist within the area will be directly or indirectly affected by the proposed project. Impacts may also be short-term or long-term. A project impact is considered significant if it reaches the threshold of significance identified in the EIR. Mitigation measures may reduce a potentially significant impact to less than significant.

Significant Unavoidable Impact. A project impact is considered significant and unavoidable if it is significant and cannot be avoided or mitigated to a less-than-significant level once the project is implemented.

Cumulative Significant Impact. A cumulative impact can result when a change in the environment results from the incremental impact of a project when added to other related past, present or reasonably foreseeable future projects. Significant cumulative impacts may result from individually minor but collectively significant projects.

Mitigation. Mitigation measures are revisions to the project that would minimize, avoid, or reduce a significant effect on the environment. CEQA Guidelines §15370 identifies 5 types of mitigation:

a) Avoiding the impact altogether by not taking a certain action or parts of an action.

b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.

d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

e) Compensating for the impact by replacing or providing substitute resources or environments.

2 PROJECT DESCRIPTION

INTRODUCTION

The Operating Engineers Local #3 (OE3) currently operates a private school with field training in the Cosumnes community. The Operating Engineers Local #3 provides education and training on heavy equipment and is attended by both new persons to this line of work (heavy equipment operators certification) and by those who need to renew their certifications and/or obtain continuing education credits. The school has been operating out of Rancho Murieta for over 45 years and serves the greater northern California region.

PROJECT LOCATION

The project is located at 13800 Meiss Road in the town of Sloughhouse, in unincorporated Sacramento County. The project site encompasses approximately 1,500-acres generally south of Meiss Road, West of Apple Road, east of Ione Road. The project site is located on the Carbondale USGS quadrangle: township 7N, range 8E, sections 17-20. Reference Plate PD-1.

Project APNs: 128-0090-032, 128-0110-011, and 128-0060-001

PROJECT PROPOSAL

The applicant is requesting a new use permit to build and operate a new campus and equipment training activities. This new use permit would replace the existing mining use permit on the subject property. The new campus and training center includes the following: 1) construction and operation of a new campus facility (without dormitory); and 2) allowance for field instruction with construction equipment on the property. The project will include the relocation of existing classrooms and equipment training from the Rancho Murieta Training Center; the dormitory and food preparation will continue to reside at the current campus location in Rancho Murieta. Reference Plate PD-2.

The field instruction area will cover 425 acres; however, only 80 acres will be actively disturbed at one time. The applicant proposes a five year rotation cycle, so that the land can rest and revegetate.

Campus

The 25-acre campus will provide all the facilities and infrastructure necessary to support the classroom education of the training center. Campus facilities will be located within the northern portion of the project site. The campus area will include buildings, parking, and ancillary facilities to support up to 80 students for training periods lasting either 2 or 8 weeks. Within this 25-acre campus area will be approximately 60,000 square feet of building infrastructure. Campus facilities include:

- Classrooms: Approximately 17 classrooms with varying sizes depending on their use.

- Lunch/Breakroom: A lunch/breakroom for “brown bag” lunches for students and staff. Food preparation facilities and service will not occur on-site.

- Maintenance and Repair Facilities: Equipment repair and maintenance is offered as part of the training program. All mobile training equipment maintenance and repairs will occur within designated campus buildings.

- Administration: A front desk, administration offices, and a conference room will be located on campus to support training center administration and other ancillary support of the training center.

- Pole Barn: an approximately 2-acre covered structure to allow limited mobile equipment training activities during inclement weather.

The campus will be designed and constructed in compliance with AG-80 zoning standards, County Building Code, Sacramento Metropolitan Fire District rules, Health and Safety Code, and other applicable County and state regulations.

Field Instruction

The field instruction area will provide for training on mobile equipment. Consistent with current activities, field instruction will continue to involve a variety of earth moving, equipment operation, and simulated construction projects. The field instruction area will continue to include an equipment operating area, portable bathroom facilities, mobile equipment storage, and parking areas.

The field instruction area will encompass a total of approximately 425 acres; however, no more than 80 acres of that would be disturbed within a given area of instruction. Field instruction will only take place in one 80 acre area during any one period and field instruction will remain within a given area for approximately 5 years prior to revegetation and moving into the next area.

Preservation

The remaining 1,050 acres on-site may be permanently preserved depending on acceptance by State and federal permitting agencies. On-site preservation may occur in two locations: (1) the eastern portion of the site may be used to mitigate project-related biological impacts if accepted by State and federal permitting agencies; (2) the western portion of the site may be permitted as a mitigation bank or similar land conservation depending on acceptance by agencies. To maximize habitat values, OE3 may enhance or create habitat on portions of the property, which will require some equipment movement and surface disturbance within the preservation areas. Sacramento County is not requiring on-site preservation as part of this project.

OE3 may choose to enhance the existing habitat to maximize habitat values within these areas, if approved by state and federal permitting agencies. The habitat improvements woud require some equipment movement and surface disturbance within the preservation areas. Habitat creation would only occur during daytime hours and would involve the same equipment used for field instruction.

Training Center Operations & Facilities

Hours of Operation and Population

Training courses at the project site will occur year-round consistent with existing training. Classroom and field instruction will be Monday through Saturday, 7:30 a.m. to 4:00 p.m. No classroom or field instruction will occur on Sundays.

The training center will employ up to approximately 20 full-time employees. These employees will provide classroom and field instruction, administrative functions, and ancillary functions (e.g., janitorial, maintenance). Typically, 60 students will attend training at any one time but overlapping classes may increase the total to 80 students. The total number of students will vary depending on the training courses offered, time of year, economy, and other factors.

Equipment

Table PD-1, "Typical Training Center Equipment," lists the types of mobile equipment that will typically be used for field instruction as well as fuel, oil, and lubricant storage that will be installed for use in operating and maintaining this equipment. The equipment provided below is the same equipment currently used in training activities. In addition to the training equipment listed below, OE3 uses several gasoline-powered vans, pickup trucks, and trailers for personnel movement on- and off-site, also consistent with current activities at the site.

Table PD-1: Typical Training Center Equipment

EQUIPMENT	FUEL
Training equipment	
Scrapers	Diesel
Dozers	Diesel
Cranes (hydro and tower)	Electricity and Diesel
Drilling equipment (horizontal and vertical)	Diesel
Backhoes	Diesel
Forklifts (vertical mast and rough terrain)	Diesel
Loaders	Diesel
Hydro-excavator	Diesel
Excavator	Diesel
Compactors	Diesel
Motor graders	Diesel
Paving equipment (paver, screed, rollers)	Diesel
Haul trucks	Diesel
Water truck/pull	Diesel

EQUIPMENT	FUEL
Fuel trucks	Diesel
Fuel, Oil, and Lubricant Storage	
Aboveground diesel fuel storage tanks (8,000- and 10,000-gallon capacity)	N/A
Fuel pump	Electricity
Natural gas storage tanks (11,050-gallon total capacity)	N/A
Engine, hydraulic, and transmission oil (250- and 2,000-gallon capacity)	N/A

Notes: N/A = not applicable.

Facilities

The site will also construct and maintain all ancillary facilities necessary to support campus operations and field instruction activities. The following provides a summary of those facilities:

- Fuel and Equipment Maintenance: diesel fuels will be stored on-site in aboveground tanks for use by field instruction equipment. Some engine, hydraulic, and transmission oil will be stored within campus building designated for equipment repair and training. A mobile fuel and lubrication truck will be used to service vehicles on-site.

- Water Supply & Usage: A well currently serves as the water source for the project. Water use will increase over current water uses (limited to dust control) to support the water uses of the campus and fire suppression. The total maximum annual water demand for the project will be approximately 57 acre feet a year (afy) or an increase of approximately 32 to 36 afy over annual baseline water demand.

- Utilities: and existing power line will be upgraded to support the electricity demands of the campus.

- Sanitary Sewer System: portable chemical toilets in field instruction areas will be provided and an engineered wastewater treatment and disposal system will be used for the campus facilities.

Access and Vehicle Trips

Consistent with current training center operations, students will be transported on- and off-site from the Rancho Murieta facility via 6–10 vans at the start and conclusion of training each day. Employee vehicles will enter and exit the site using a private access road that connects to Meiss Road. Typical daily vehicle trips, including student vans, employees, and general deliveries will result in approximately 33 round-trips.

REQUESTED ENTITLEMENTS

1. A Use Permit for a private school to allow 450-acres of 1,500-acre site to be utilized as an Operating Engineers training center in the AG-80 zone.

2. A Design Review to comply with Countywide Design Guidelines.

3. A Williamson Act Contract to re-enter into contract and prevent non-renewal scheduled to occur December 2024 on portions of the subject property.

4. Williamson Act Cancellation to cancel the existing contract on the 25-acre campus site.

PROJECT PROPONENTS

Owner: Operating Engineers Local #3 (OE3) CA AAT

Applicant: OE3 CA AAT, Attn. Tammy Castillo

Land Use Consultant: Benchmark Resources, Attn. Andrew White

PROJECT OBJECTIVES

The objectives of the project are as follows:

1. Develop a consolidated, approximately 25-acre state-of-the-art training campus and approximately 80-acre field instruction area for journeyman and apprentice operating engineers that ensures a safe working environment for students and instructors;

2. Locate the training center centrally within the service region and intended areas of employment while also locating the training center within a large rural site to provide buffer areas and minimize the potential for adverse effects on neighboring properties.

3. Continue to provide the region with an educated and skilled workforce that will support quality construction projects while earning a fair living wage.

4. Maintain existing levels of field instruction and equipment training.

5. Minimize onsite agricultural impacts to the extent feasible.

6. Ensure the cost of constructing and operating the campus does not curtail the availability of training programs, either through a reduction in class sizes or the number of classes offered.

PROJECT BACKGROUND

The project site was subject to extensive gold dredging operations over 80 years ago, disturbing and dramatically changing the land by leaving dredge tailings in long rows averaging 15-25 feet in height. These tailings have been mined for decades and in 1999, the County approved a modification to the existing Mining Use Permit and reclamation plan to continue mining on approximately 175 acres. The Use Permit expired in June 2019.

In 2011, OE3 bought the proposed project site and received a substantial compliance letter from the County stating that the proposed school equipment activities are similar to those expected in the existing Mining Use Permit, provided that OE3 follow all conditions stipulated by that Use Permit. Since 2014, OE3 transports students daily to the project site from the Rancho Murieta campus for field equipment training. The existing field equipment training area is limited to 90 acres with no permanent structures. The remainder of the land is leased out to local cattle farmers for grazing.

Plate PD-1: Project Location Map

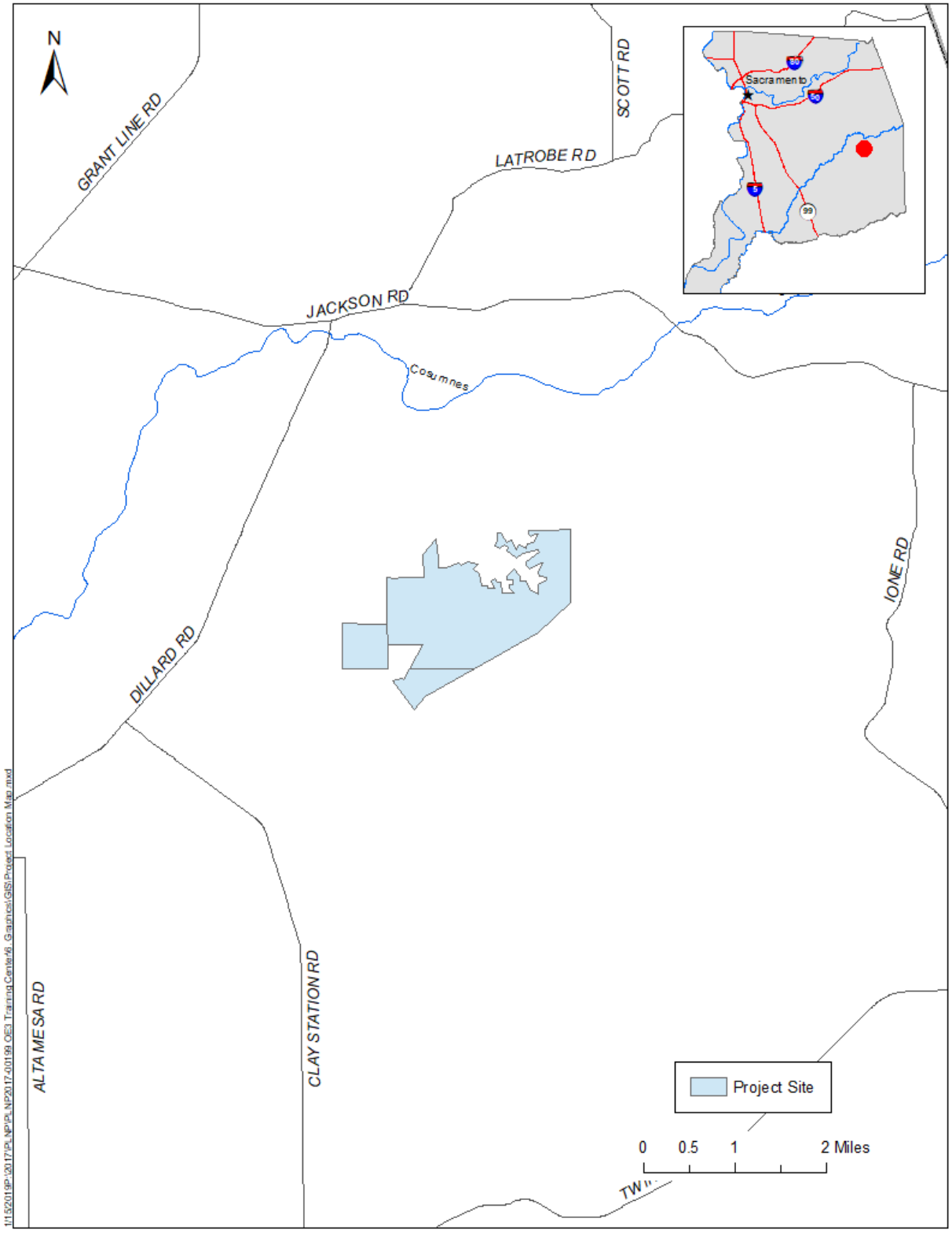
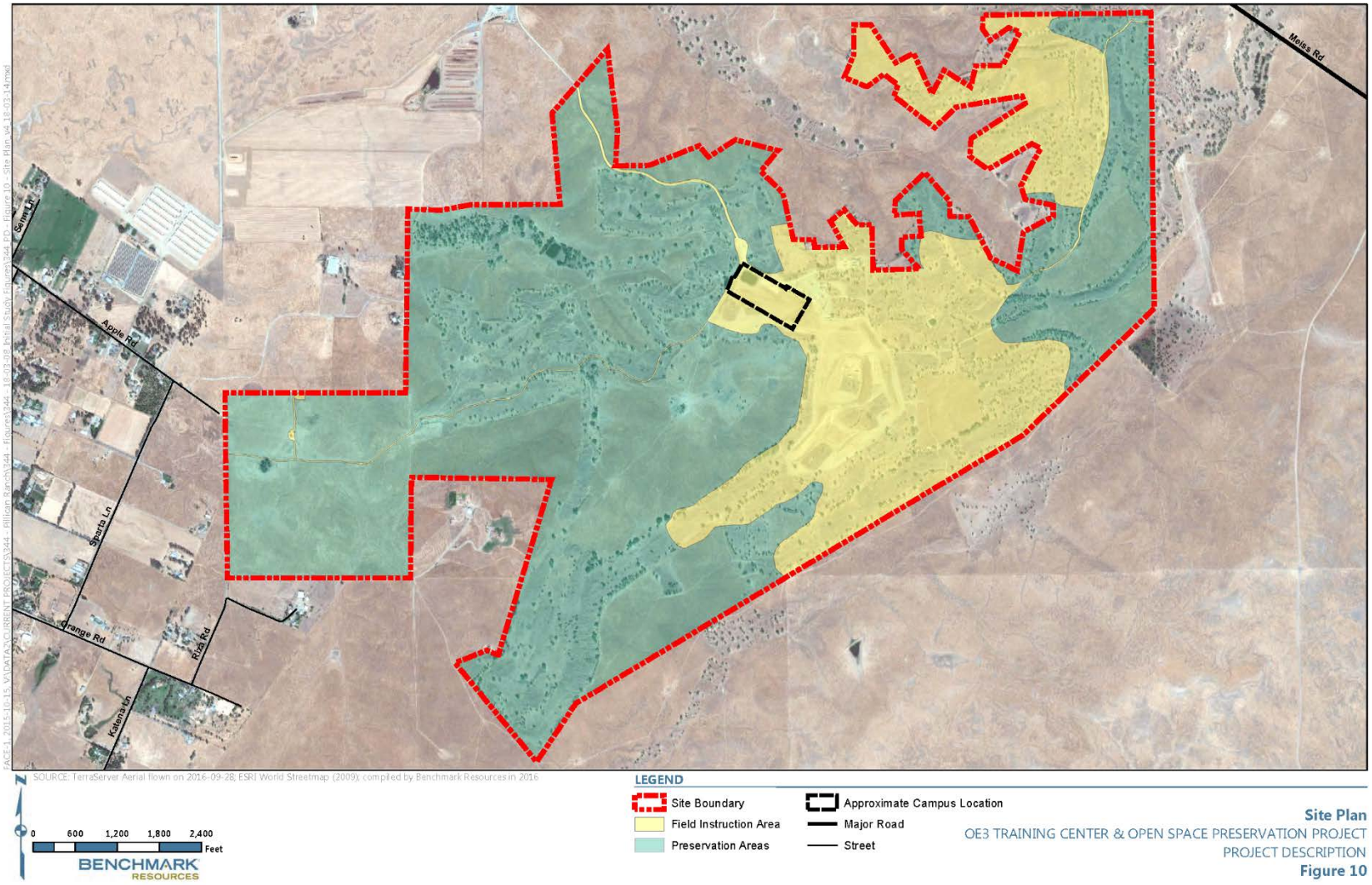


Plate PD-2: Proposed Site Plan



ENVIRONMENTAL SETTING

The project is located in eastern Sacramento County, south of the community of Rancho Murieta. The entire project site encompasses 1,500 acres of mine tailings, open grassland, riparian vegetation and wetland resources.

Open Space

The majority of the project site is undeveloped open space and currently leased and used for grazing. Additionally the project site contains remnant dredge tailings left from mining activities from the 1850s through 1910. These tailings are large mounds generally in long rows. In the valleys of these rows, stormwater can accumulate and provide suitable environments for the growth of cottonwood dominated riparian vegetation. This is quite evident on the site, with vegetation consisting of cottonwoods, elderberry shrubs and willows. Scattered throughout the project site within the grassland open spaces are native oaks, black walnut, eucalyptus, and pine trees. Reference Plate PD-3 for an aerial photo of the project site.

Field Instruction Uses

In the center of the project site, approximately 90 acres have been "worked" by the project applicant for field instruction using a variety of equipment types. In that disturbed area, there are two ponds – one is a detention pond to capture stormwater runoff from the disturbed area and the other is a fresh water pond that supplies the water trucks used for dust suppression.

Field instruction activities began on-site in 2014 and are planned to continue indefinitely. A typical training class includes training activities on multiple pieces of equipment and/or heavy-duty repair. The type of equipment used during training varies depending on the class. The following is a list of equipment currently used for on-site field instruction, depending on class type:

- scrapers;
- dozers;
- cranes (hydro and tower);
- drilling equipment (horizontal and vertical);
- backhoes;
- forklifts;
- loaders;
- a hydro-excavator;
- an excavator;
- compactors;
- motor graders;
- paving equipment (paver, screed, rollers);
- haul trucks;
- a water truck/pull;
- fuel trucks; and
- screen machine.

Skills taught included:

- Earthwork and movement (e.g. gradesetting, trenching)
- electrical/hydraulic repair, and
- paving.

Because no campus facilities are located on the project site, all classroom instruction is conducted at the Rancho Murieta Training Center. On days when field instruction is scheduled, students are bused to and from the Rancho Murieta Training Center to the project site. Since 2014, field instruction has occurred at the project site Monday through Saturday between 7:30 a.m. and 4:00 p.m.

Table PD-2, "Field Instruction Classes and Attendance Summary," provides a summary of classes and average attendance between 2013 and 2017.

TABLE PD-2: FIELD INSTRUCTION CLASSES AND ATTENDANCE SUMMARY

Year	SRT/JYN Training		POP Training		IUOE Pipeline Training	
	Number of Classes	Average Attendance	Number of Classes	Average Attendance	Number of Classes	Average Attendance
2014	11	42	6	42	0	0
2015	13	42	6	54	1	6
2016	12	65	6	54	3	6
2017	15	64	4	54	5	6

Notes: SRT/JYN = Supplemental Related Training/Journeyman Training; POP = Probationary Orientation Period; IUOE = International Union of Operating Engineers.

Surrounding Land Uses

The surrounding land uses are all agricultural. There are a few scattered homesteads to the west of the site. Northwest of the project site is a mitigation bank for a variety of wetland resources. The Cosumnes River is located approximately two miles to the north and Rancho Murieta is approximately 3.5 miles to the northeast. Refer to (Plate PD-1).

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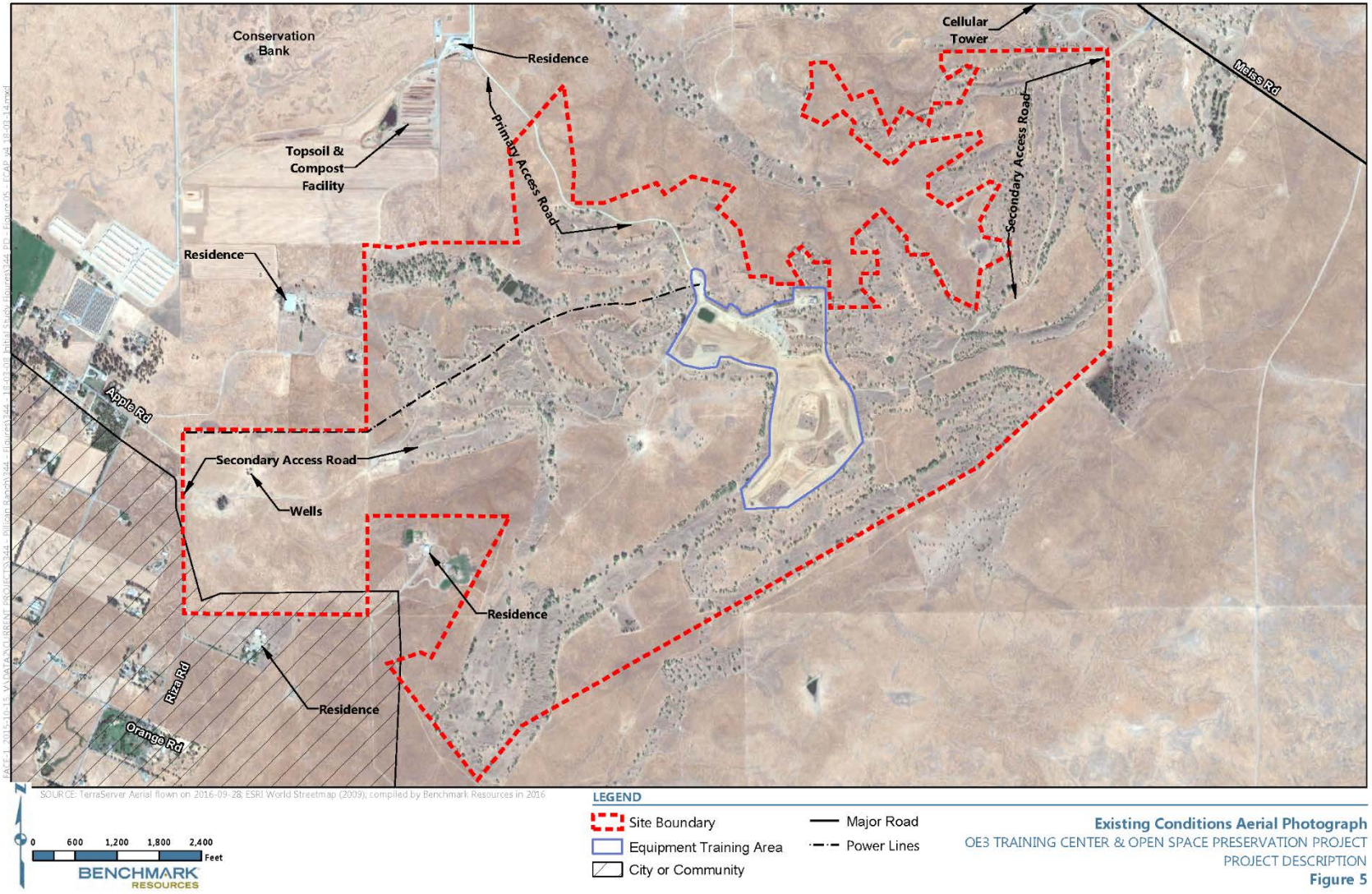
Plate PD-3: Existing Conditions Aerial Photo of Project Site



INTENDED USES OF THE EIR

The Sacramento County Planning Commission and the Board of Supervisors will use the information contained in the EIR to evaluate the proposed project and render a decision to approve or deny the requested entitlements. The EIR will serve as an informational document for the general public as well. Responsible agencies may also use the EIR as needed for subsequent discretionary actions. Based on the potential effects known at this time, responsible agencies may include (but may not be limited to) the United State Army Corps of Engineers, United States Fish and Wildlife Service, California Department of Fish and Wildlife, Central Valley Regional Water Quality Control Board, Pacific Gas and Electric Company, and Sacramento Municipal Utilities District.

Table PD-3 below includes information required by Section 15124 of the CEQA Guidelines and summarizes the following intended used of the EIR:

- A list of agencies that are expected to use the EIR in their decision making.
- A list of permits and other approvals required to implement the project.
- A list of related environmental review and consultation requirements required by federal, state, or local laws, regulations, or polices.

Table PD-3: Subsequent Permits, Approvals, Review, and Consultation Requirements

Agency	Approval
Sacramento County Board of Supervisors	Final Environmental Impact Report Certification
Sacramento County Board of Supervisors	Use Permit, Design Review, Williamson Act Contract (cancellation and re-entry)
Sacramento County Planning Commission	Recommendation to the Board of Supervisors regarding Use Permit, Design Review, Williamson Act Contract (cancellation and re-entry)
Sacramento County Environmental Management Department	On-site Wastewater Disposal Permit
Sacramento Metropolitan Air Quality Management District	Fugitive Dust Prevention and Control Plan
Regional Water Quality Control Board – Central Valley Region	Section 402 National Pollutant Discharge Elimination System Permit Compliance

Regional Water Quality Control Board – Central Valley Region	Waste Discharge Permit
Regional Water Quality Control Board – Central Valley Region	Section 401 Certification
California Department of Fish and Wildlife	Streambed Alteration Agreement, California Endangered Species Act Take Permit
U.S. Army Corps of Engineers	Section 404 Permit
U.S. Fish and Wildlife Service	Federal Endangered Species Act Take Permit

3 ALTERNATIVES

INTRODUCTION

This chapter describes alternative versions of the proposed project which may lessen impacts or that provide meaningful information to foster informed decisions. Impact discussion are presented in a qualitative rather than quantitative manner and are briefer than those found in the project chapters, consistent with the California Environmental Quality Act (CEQA) Guidelines Section 15126.6(d). This chapter does not repeat background discussions or other subject matter, which has already been described in the topical chapters of this EIR, but focuses on those Alternative impacts which are substantively different than the impacts described for the project. Reviewers are encouraged to read the topical chapters describing project impacts prior to reading the Alternatives chapter.

RANGE OF ALTERNATIVES

According to Section 15126.6 of CEQA Guidelines:

> An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibility 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.

The purpose of this section is to identify alternative project designs that would mitigate, lessen, or avoid the significant effects of the project. The project would result in no significant unavoidable impacts and less than significant impacts with mitigation to biological, cultural resources, and hydrology and water quality. To foster meaningful public discussion and informed decision-making, a range of reasonable alternatives to the project is provided. This range includes the "No Project" alternative, the purpose of which is to allow the hearing body to compare the impacts of approving the project to the impacts of not approving the project. The "No Project" alternative describes what would happen if the existing land use designations remained in effect.

ALTERNATIVES CONSIDERED BUT REJECTED

The following alternatives were considered, but ultimately rejected due to infeasibility and/or little benefit to the environment:

- Alternative Location
- Reduce Annual Agricultural Land Disturbance

Alternative Location

In order for an alternate location to be considered the site must be approximately 450 acres to support both the education campus and field instruction, available to purchase or lease long-term, be in proximity to the existing dormitories, adequate water supply, and no Williamson Act restrictions. As presented in the Williamson Act analysis in the Agricultural Land Use Chapter, and the Williamson Act Cancellation application included in Appendix AG-1 an exhaustive analysis of approximately 3,500 parcels within 3.5 miles of the proposed project site was conducted to determine if there were any proximate suitable alternate locations. The analysis identified 16 parcels that may be able to support the proposed use. All parcels are not encumbered by an active Williamson Act and therefore would not pose a potential land use incompatibility with respect to the Act. But all potential alternate locations are zoned agricultural and are identified as grazing land on the 2016 Important Farmlands Map for Sacramento County. Further, all parcels have higher quality biological resources, possible hydrological impacts and in some cases are closer to sensitive receptors which may cause land use incompatibility or air quality impacts.

Pursuant to CEQA Guidelines Section 15126.6(f)(2)(A), only alternative locations that would avoid or substantially lessen any of the significant effects of the project need to be considered. As summarized above, and included Chapter 4 and Appendix AG-1, potential alternate locations show that impacts to agricultural resources would not be lessened and likely biological resources, aesthetics, and noise impacts could increase. In addition to possible environmental impacts, an alternative location may not be available for purchase or lease. For these reasons, an alternative location is rejected from further analysis. Also, CEQA does not require a discussion of alternative project locations. As the court in *Mira Mar Mobile Community v. City of Oceanside* (2004) 119 Cal.App. 4th 477, held, an EIR for a development consistent with applicable land use policies does not need to examine alternate sites for the project because a development proposal that implements existing planning policies should not prompt reconsideration of those policies which themselves have already undergone environmental review. Here, the project is consistent with existing planning policies, and does not require a general plan amendment, further rendering an alternative project location unnecessary.

Reduced Annual Agricultural Land Disturbance

This alternative would restrict the total acreage of agricultural land disturbance to under 50 acres. This would include a 25-acre education campus and a 24-acre field instruction area. The total rotation area of the field instruction would remain 425 acres, and rotations would have to occur more frequently, likely every two to three years, because less area is available for training and the soils would become overworked more quickly.

This alternative would place the safety of OE3 students is at risk. OE3 can have up to 20 instructors and 80 students training on over 20 different pieces of mobile equipment per day. Students are training on pieces of mobile equipment and watching demonstrations by an instructor surrounding these various pieces of equipment. Many of these pieces of equipment require multiple acres to adequately learn their functions

and operations. To ensure a safe working environment, OE3 would need to reduce the number of students and amount of mobile equipment training occurring during a session.

This alternative would meet the applicant's project objective for the education and field campuses to be in proximity to each other. However, the 24 acre field instruction area is not large enough to support the existing number of equipment and students . A reduction in the number of classes, students, or a combination of both would need to occur to ensure student and instructor safety. As a result, this alternative is inconsistent with the project objective to maintain student population and training activities at the same level and is rejected as a reasonable alternative.

DESCRIPTION OF ALTERNATIVES

ALTERNATIVE 1: REDUCE PROJECT IMPACT AREA

This alternative would restrict the proposed uses to the existing impacted area, approximately 80 acres. This would reduce the field instruction area to 65 acres after construction of the 25-acre campus. This alternative would meet the applicant's project objectives for the education and field campuses to be in proximity to each other but would not meet the applicant's objective to maintain student population and training classes at existing levels due to field instruction area reduction. In addition, certain field instruction classes would be limited or delayed as a result of the need to allow the disturbed land to rest and be compacted sufficient to allow certain activities.

ALTERNATIVE 2: REDUCED FIELD INSTRUCTION AREA

This alternative would remove the northeastern most extent of the field instruction area and reduce the field instruction area to 315 acres. This alternative would meet the applicant's project objectives for the education and field campuses to be in proximity to each other and would generally meet the field rotation/rest cycles.

NO PROJECT ALTERNATIVE

The no project alternative would assume that no activity outside of permitted agricultural uses would occur. The current field instruction occurring on-site would cease since the prior Use Permit on the property has expired and the existing nonrenewal of the Williamson Act contract would occur in 2024. The OE3 would only be able to continue their classroom instruction in their existing location in Rancho Murieta.

IMPACTS AND ANALYSIS

A summary matrix is included at the end of this document clearly identifying the range of Alternatives and their respective impacts to select environmental topics in relation to the proposed project.

AGRICULTURAL LAND USE RESOURCES

The proposed project's impacts to agricultural and land use resources are already less than significant even without mitigation. Only two alternatives would further reduce impacts associated with the permanent loss of grazing land – Alternative 1 and the No Project Alternative

ALTERNATIVE 1

The existing disturbed area of land is currently classified as other land on the 2016 Farmland Inventory Map for Sacramento County. This alternative limits ground disturbance from the field training activities to the existing disturbed area by reducing the field instruction area to 65 acres. Because the proposed project would use 80-acre field instruction areas, this alternative slightly reduces impacts to grazing when compared to the proposed project. However, given that the proposed project's impacts here are already less than significant without mitigation and that the project site is 1,500 acres, this reduction is minimal. In addition, this alternative would still require partial cancellation of the Williamson Act contract and reenrollment of the remaining property into a new Williamson Act contract.

ALTERNATIVE 2

Alternative 2 would eliminate disturbance of approximately 110 acres; therefore, this area would not be temporarily removed from cattle grazing under the proposed project. However, the proposed project would only remove such lands from grazing temporarily during rotations of the field instruction area; during this period, these lands would be replaced as the previous field instruction area is returned to grazing. This alternative would still require partial cancellation of the Williamson Act contract and reenrollment of the remaining property into a new Williamson Act contract. As a result, this alternative would not reduce impacts to agricultural resources.

NO PROJECT ALTERNATIVE

Pursuant to the prior Use Permit's reclamation plan, the disturbed areas must be returned to prior agricultural uses (non-irrigated pasture). Following reclamation of the land, there would be no impact to agricultural lands. However, nonrenewal of the existing Williamson Act contract would still occur on December 31, 2024. As a result, the property could be utilized for additional land uses prohibited by the existing Williamson Act contract but allowed under the property's County General Plan and zoning designations, which in turn could result in agricultural land use impacts similar to or greater than those of the project.

AIR QUALITY/GREENHOUSE GASES

The proposed project's impacts to air quality and greenhouse gas emissions are already less than significant even without mitigation.

Alternative 1: This alternative would involve the construction of the new education campus, and operation of the mobile equipment associated with field instruction. This alternative limits ground disturbance from the field training activities to the existing

disturbed area by reducing the field instruction area to 65 acres. As a result, this alternative would not meet the applicant's objective to maintain student population and training classes at existing levels while ensuring student and instructor safety due to field instruction area reduction. A slight reduction in emissions compared to the proposed project could occur if the current field instruction schedule was reduced to allow the previously disturbed land to rest.

Alternative 2: this alternative would involve the construction of the new education campus, and operation of the mobile equipment associated with field instruction. This alternatives would not result in a change to air quality or greenhouse gas emissions.

No Project Alternative: mobile equipment would be required for the minor earthwork to return the land back to non-irrigated pasture consistent with the approved reclamation plan. The emissions associated with the off-road equipment would be minimal and temporary. However, nonrenewal of the existing Williamson Act contract would still occur on December 31, 2024. As a result, the property could be utilized for additional land uses prohibited by the existing Williamson Act contract but allowed under the property's County General Plan and zoning designations, which in turn could result in agricultural land use impacts similar to or greater than those of the project.

BIOLOGICAL RESOURCES

All three alternatives would reduce impacts associated with loss of biological resources – Alternative 1, 2 and the No Project Alternative. However, the project's impacts on biological resources are already less than significant with mitigation.

ALTERNATIVE 1

Restricting the project impact area to the existing disturbed area will eliminate all new impacts to biological resources (wetlands, special status species, and vegetation).

ALTERNATIVE 2

Eliminating the eastern most field instruction area will reduce impacts to wetlands, special status species, associated species habitat, and special status plants. This area has two recorded occurrences of Sanford's arrowhead and approximately 1.0 acre seasonal wetlands, 0.4 acre vernal pools and 0.27 acre stockpond. In addition, this area provides habitat for various raptor, bird, and other special status species. These biological resources would be preserved under this alternative. Approximately six to seven acres of Freemont cottonwood woodlands would also be preserved under this alternative.

NO PROJECT ALTERNATIVE

The reclamation of the land (agricultural grazing land) would not introduce new biological impacts and the land would again be suitable habitat for those species that utilize valley grassland habitat. However, nonrenewal of the existing Williamson Act contract would still occur on December 31, 2024. As a result, the property could be utilized for additional land uses prohibited by the existing Williamson Act contract but

allowed under the property's County General Plan and zoning designations, which in turn could result in biological impacts similar to or greater than those of the project.

CULTURAL RESOURCES

The proposed project's impacts to cultural resources are already less than significant with mitigation. All three alternatives would further reduce these impacts.

ALTERNATIVE 1

This alternative limits the ground disturbance to the area that has already been disturbed. There are no new impacts associated with unanticipated cultural resource discoveries under this alternative.

ALTERNATIVE 2

This alternative would remove approximately 110 acres of field instruction area from new ground disturbance and therefore reduce the potential to disturb unanticipated cultural resources.

NO PROJECT ALTERNATIVE

This alternative reclaims the land back to agricultural uses. The minor grading and earthwork associated with the reclamation of land would not involve undisturbed areas.

However, nonrenewal of the existing Williamson Act contract would still occur on December 31, 2024. As a result, the property could be utilized for additional land uses prohibited by the existing Williamson Act contract but allowed under the property's County General Plan and zoning designations, which in turn could result in cultural resources impacts similar to or greater than those of the project..

HYDROLOGY AND WATER QUALITY

The proposed project's impacts to hydrology and water quality are already less than significant after mitigation. Alternative 1 and the No-Project Alternative would further reduce these impacts.

ALTERNATIVE 1

Because this alternative would slightly reduce the field instruction area, it would slightly reduce impacts associated with hydrology and water quality as less ground would be disturbed. However, hydrology and water quality impacts under Alternative 1 would largely be the same as those predicted for the project because the daily and annual water demand for the campus and dust control for field instruction would be the same as the proposed project.

ALTERNATIVE 2

Hydrology and water quality impacts under Alternative 2 would be the same as those predicted for the project because the daily and annual water demand for the campus and dust control for field instruction would be the same as the project, and the amount of land disturbed by the project at any one time would not increase.

NO PROJECT ALTERNATIVE

After reclamation activities are complete, the project site would return to grazing land and would not alter the natural drainage nor increase the consumption of groundwater. However, nonrenewal of the existing Williamson Act contract would still occur on December 31, 2024. As a result, the property could be utilized for additional land uses prohibited by the existing Williamson Act contract but allowed under the property's County General Plan and zoning designations, which in turn could result in hydrology and water quality impacts similar to or greater than those of the project.

NOISE

The proposed project's impacts to noise are already less than significant even without mitigation. All three alternatives would further reduce these impacts.

ALTERNATIVE 1

this alternative would still permit construction and operation of the campus within the central portion of the property. Therefore, no change in construction and operational noise associated with the campus would occur under this alternative. The primary difference in this alternative is the potential reduction in field instruction noise levels for the few rural residences east, west, and southwest of the property.

ALTERNATIVE 2

Alternative 2 would still permit construction and operation of the campus and field instruction within the central portion of the property. Therefore, no change in noise associated with these activities would occur under this alternative. The primary difference in this alternative is the potential reduction in field instruction noise levels for the few rural residences east of the property.

NO PROJECT ALTERNATIVE

limited noise emissions would result from mobile equipment operation during reclamation. Following reclamation, no noise or vibration impacts would occur.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified. The above analysis includes the No Project Alternative along with a range of alternatives in order to develop a reasoned choice. However, for several reasons it cannot be considered the environmentally superior alternative. First, because it does not satisfy the applicant's primary project objective – Continued heavy equipment field instruction; and second, CEQA requires that if the environmentally superior alternative is the no project alternative, the EIR must identify another environmentally superior alternate from those remaining. Considering all remaining alternatives, the environmentally superior alternative is Alternative 1. However, as noted above, this alternative does not meet the applicant's need to rest and re-compact the field instruction area. In addition, this alternative would increase the amount of wait time to allow disturbed land to rest and be

compacted, and would thereby limit or delay certain field instruction classes. This, too, is inconsistent with the project's objectives.

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Table ALT-1: Alternatives Summary Matrix

Environmental Impact	Alternative 1	Alternative 2	No Project Alternative
Agricultural Land Use	Reduced+	Similar	Reduced+++
Air Quality & Greenhouse Gas	Similar	Similar	Reduced++
Biological Resources	Reduced+++	Reduced+	Reduced+++
Cultural Resources	Reduced+++	Similar	Reduced+++
Hydrology and Water Quality	Similar	Similar	Reduced++
Noise	Similar	Similar	Similar

Impact level in comparison to the proposed project:

Similar = environmental impacts are similar to those identified for the proposed project

Reduced+ = environmental impacts are slightly reduced as compared to the proposed project

Reduced++ = environmental impacts are moderately reduced as compared to the proposed project

Reduced+++ = no environmental impact

4 AGRICULTURAL RESOURCES

INTRODUCTION

This project is a Use Permit request for a private school within an agricultural area of unincorporated Sacramento County. In addition to the Use Permit, the applicant is requesting Williamson Act agreement cancellation on a portion of the current agreement and to re-enter into a new agreement. Land use impacts largely revolve around compatibility of surrounding uses and consistency with Williamson Act. This chapter addresses potential physical environmental impacts related to agricultural land use compatibility and Williamson Act.

ENVIRONMENTAL SETTING

The project is located within the Cosumnes community of unincorporated Sacramento County, south of the Cosumnes River. The project is located outside of the Urban Services Boundary and is not served by municipal water or sewer. The boundaries of the project are generally, ½ mile south of Meiss Road and is immediately east of Apple Road (Plate AG-1).

The existing General Plan land use designation for the project site is General Agricultural 80. The existing zoning designation is AG-80 (Agricultural 80-acre minimum) with a significant portion covered by a surface mining overlay (refer to Plate AG-2 and Plate AG-3).

The large, central parcel is subject to a Mining Use Permit (County Control No.: 97-UPP-0157). The Use Permit expired in June 2019; however, there is an approved reclamation plan which requires the disturbed area to be reclaimed to non-irrigated pasture.

Surrounding land uses are dominated by agricultural uses (grazing) and conservation resource areas. The nearest single-family residence is approximately ½ mile to the west of the field instruction area.

Plate AG-1: Project Location

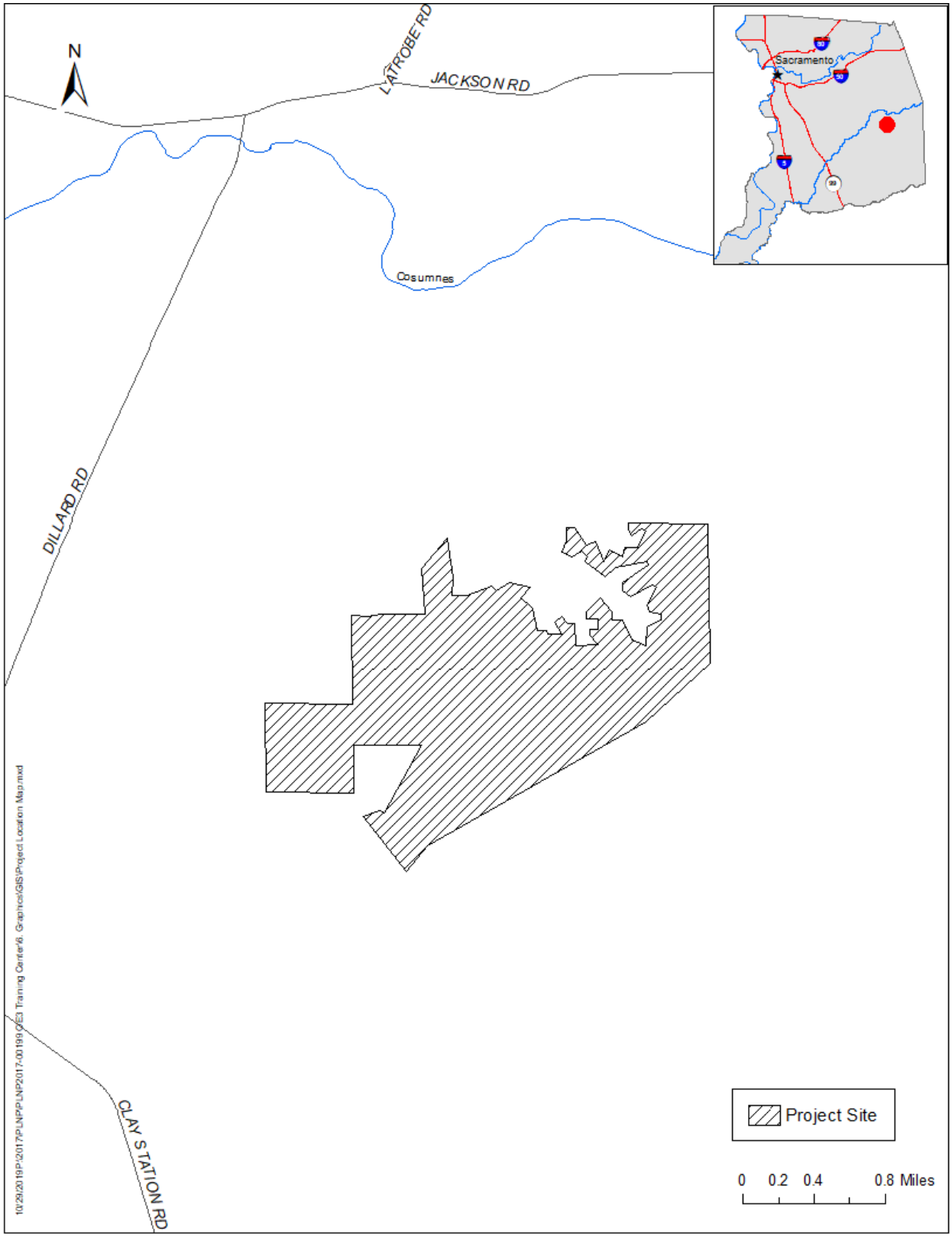


Plate AG-2: General Plan Land Use Map

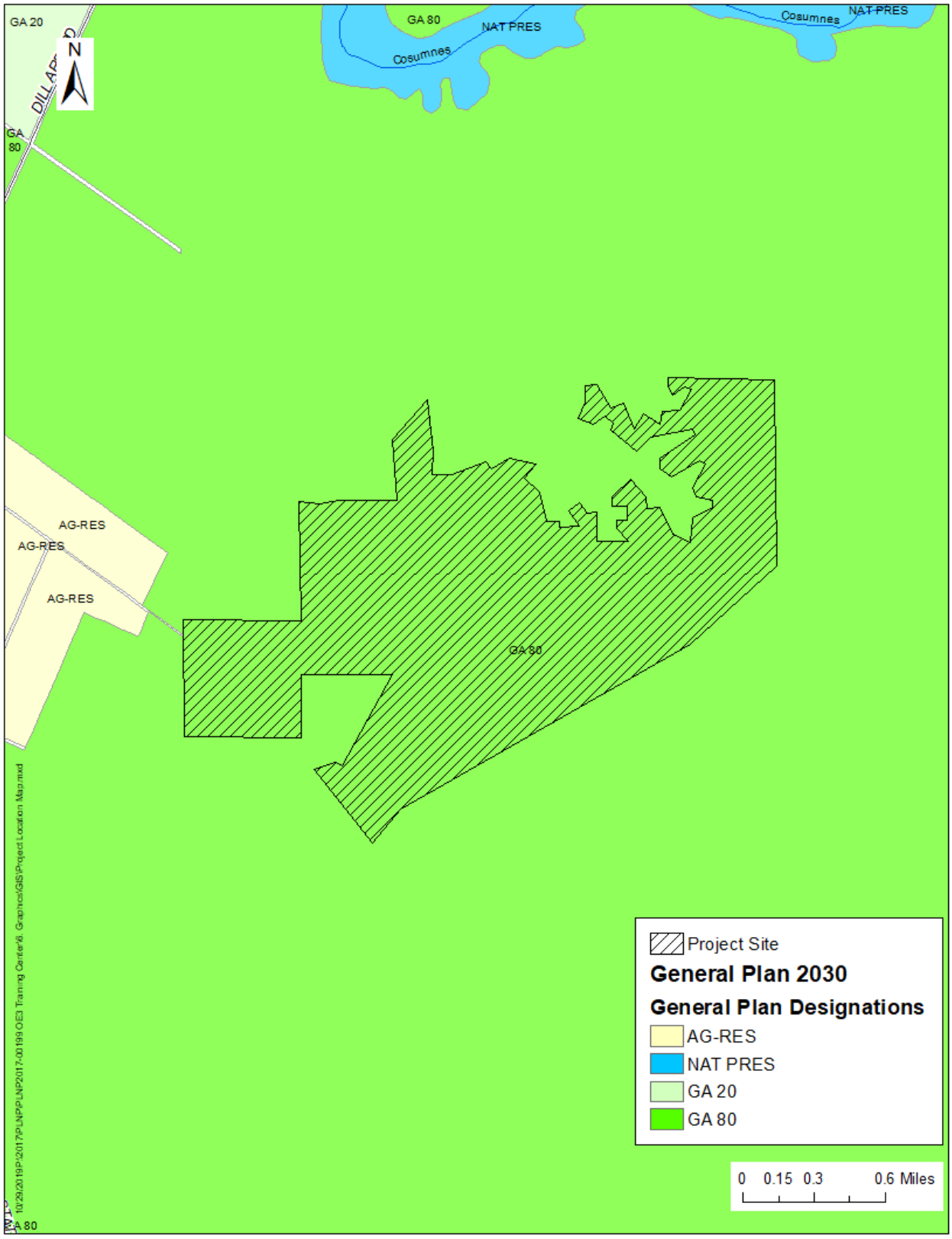
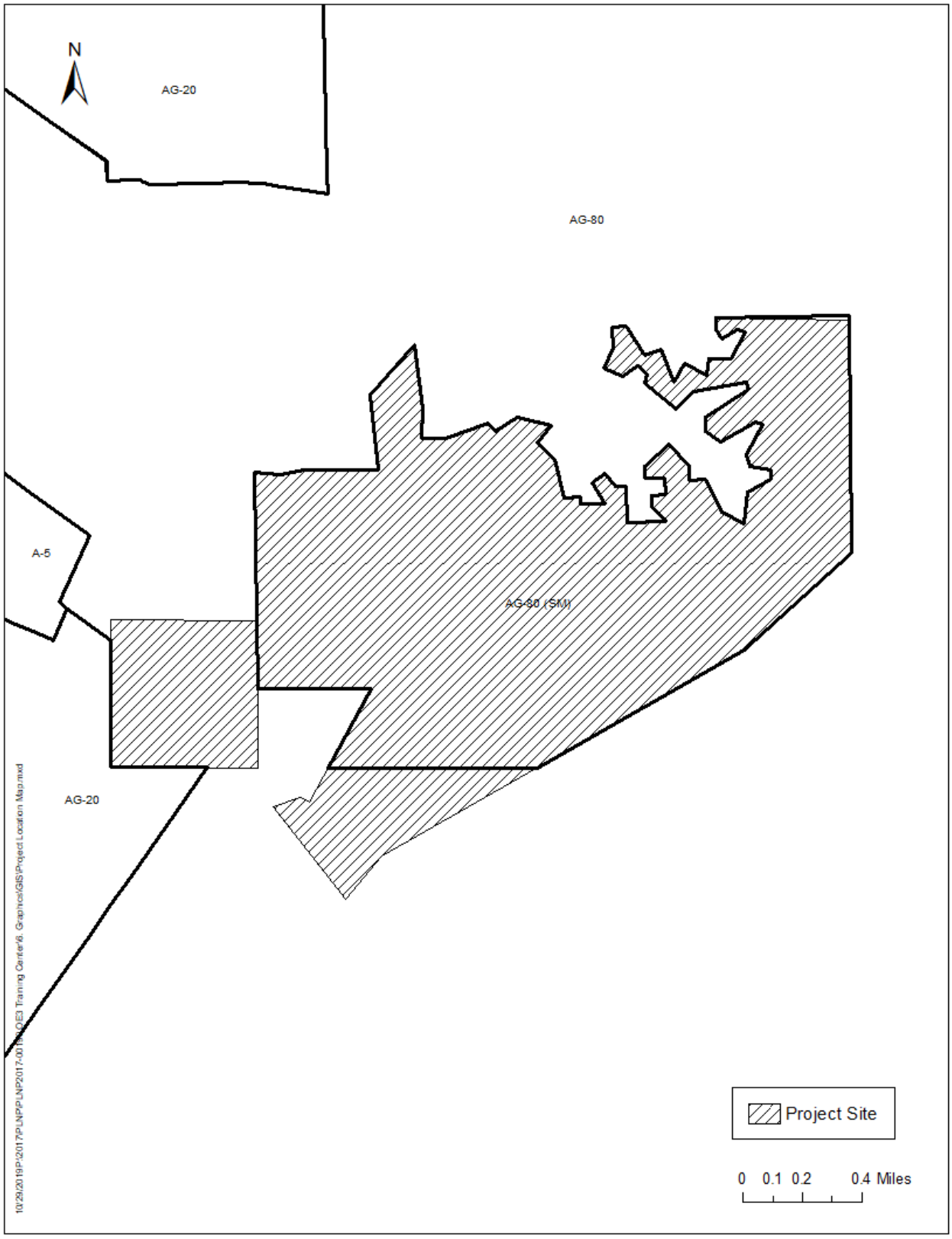


Plate AG-3: Zoning Map



REGULATORY SETTING

SACRAMENTO COUNTY GENERAL PLAN

The General Plan Land Use Element defines the existing and proposed land use designation of the project site as follows:

> General Agriculture (80 acres). This designation identifies land that is generally used for agricultural purposes, but less suited for intensive agriculture than Agricultural Cropland. The minimum size allowable is 80 acres, large enough to maintain an economically viable farming operation. Typical farming activities include dry land grain, and irrigated and dry land pasture. Most soil classes range between IV and VI on the Soil Conservation Service scale. Constraints found in areas with this designation include shallow soils, uncertain water supply, moderate slopes, fair to poor crop yield, and farm unit fragmentation. Only agricultural production is permitted in areas with this designation. The General Agriculture/80 acres designation allows single family dwelling units at a density no greater than 80 acres per unit.

Land Use policies that pertain to the project are contained in the Agricultural Element and Conservation Element. Applicable policies listed below are those that are both pertinent to the project and are intended to avoid an environmental effect.

GENERAL PLAN AGRICULTURAL ELEMENT

AG-5 Projects resulting in the conversion of more than fifty (50) acres of farmland shall be mitigated within Sacramento County, except as specified in the paragraph below, based on a 1:1 ratio, for the loss of the following farmland categories through the specific planning process or individual project entitlement requests to provide in-kind or similar resource value protection (such as easements for agricultural purposes):

- Prime, statewide importance, unique, and local importance, and grazing farmlands located outside the USB;
- Prime, statewide importance, unique, and local importance farmlands located inside the USB.

The Board of Supervisors retains the authority to override impacts to Unique, Local, and Grazing farmlands. However, if that land is also required to provide mitigation pursuant to a Sacramento County endorsed or approved Habitat Conservation Plan (HCP), then the Board of Supervisors may consider the mitigation land provided in accordance with the HCP as meeting the requirements of this section including outside of Sacramento County.

Note: This policy is not tied to any maps contained in the Agricultural Element. Instead, the most current Important Farmland Map from the Department of Conservation should be used to calculate mitigation.

AG-12 The County will cooperate with landowners of agriculturally zoned properties to promote the placing of natural preserve/mitigation amenities on land, such as trees and other biota enhancing improvement, by making sure amenities are assets to both the natural preserve/mitigation areas and agriculture practices.

AG-17 The establishment of conservation easements combining preservation of agricultural uses, habitat values, and open space on the same property should be encouraged where feasible.

WILLIAMSON ACT

The Williamson Act, also known as the California Land Conservation Act of 1965, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space uses. When the County enters into a contract with the landowner under the Williamson Act, the landowner agrees to limit the use of the land to agriculture and compatible uses for the agricultural production of the land, rather than its real estate market value. The County has designated areas as agricultural preserves within which the County will enter into contacts for the preservation of the land in agriculture.

The Agricultural Element of the Sacramento County General Plan contains policies related to the topic. The following measures are applicable to this project:

AG-24 The County shall actively encourage enrollments of prime, statewide importance, unique, and local importance in its Williamson Act program.

AG-25 Outside the Urban Service Boundary, encourage landowners to enter into Williamson Act contracts or, as appropriate, to rescind Notices of Nonrenewal. Provide support to keep property in the Williamson Act by allowing agricultural-friendly land use practices that include additional economic incentives, and support replacing existing Williamson Act contracts with amended contracts that include agricultural-friendly land use practices.

SACRAMENTO COUNTY ZONING CODE

The Zoning Code identifies specific uses allowed in the Agricultural Zoning District. The Agricultural Zoning District is designed to promote and protect the public health, safety, and general welfare within Sacramento County. Table 2.2 of the Zoning Code states that AG-80 has the same permitted uses as AG-160 (one single-family residence per parcel, all agricultural uses, accessory dwellings for agricultural employees; most institutional uses allowed with a use permit). Conditionally permitted uses are identified in Chapter 3 of the Zoning Code and development standards are presented in Chapter 5.

Further, one parcel, APN 128-0090-032, has a Surface Mining (SM) combing zoning district. The Zoning Code provides the following purpose of this combing zone:

Section 4.8 The Surface Mining Combing Zoning District is designed to protect the mineral resources of the county from incompatible land use; to manage the mineral resources; to assure the county of an adequate supply of these resources with due consideration for the environment; and to provide for the restoration of mined lands for future use.

SIGNIFICANCE CRITERIA

The CEQA Guidelines define "significant" as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objectives of historic or aesthetic significance." Based on the CEQA Guidelines, an impact to land and agricultural uses is significant if the project results in any of the following:

1. Conflict with existing zoning for agricultural use, or a Williamson Act.

2. Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance or areas containing prime soils to uses not conducive to agricultural production.

3. Introduce incompatible uses in the vicinity of existing agricultural uses

4. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code

5. Result in the loss of forest land or conversion of forest land to non-forest use.

6. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest land.

In addition to the CEQA Guidelines criteria for significant farmland loss, General Plan Policy AG-5 defines a substantial farmland loss as greater than 50 acres and includes grazing lands when outside the USB, which this project is.

IMPACTS AND ANALYSIS

As mentioned briefly in the introduction the proposed project requests the following entitlements:

1. A Use Permit for a private school to allow 450-acres of 1,500-acre site to be utilized as an Operating Engineers training center in the AG-80 zone.

2. A Design Review to comply with Countywide Design Guidelines.

3. A Williamson Act Contract to re-enter into contract and prevent non-renewal scheduled to occur December 2024 on portions of the subject property.

4. Williamson Act Cancellation to cancel the existing contract on the 25-acre campus site.

IMPACT: CONFLICT WITH EXISTING ZONING FOR AGRICULTURAL USE, OR A WILLIAMSON ACT.

The existing uses on the project site consist of agricultural uses and field equipment training. The existing area disturbed by field equipment training is approximately 90 acres and is within the larger 175 acre area identified to be mined in the prior Use Permit. Of the remaining land, approximately 1,400 acres are leased to local cattle ranchers. The surrounding uses are all agricultural as well; however, some are protected conservation resource areas, which likely limit the type and intensity of agriculture.

The proposed project will continue current grazing practices in the areas not used for field training (this includes the field instruction areas out of rotation). None of the surrounding agricultural practices include intensive crops; therefore, the proposed project will not conflict with adjacent agricultural uses.

Further, according to the Land Use Consistency Tables in the County Zoning Code, private schools are permitted in the AG-80 zone subject to a conditional Use Permit adopted by the Board of Supervisors. The conditional Use Permit allows for specific conditions to be placed on the construction and operation of the facility. As shown in the Land Use Technical Study (Appendix AG-1), the project is consistent with the Zoning Code's requirements for non-agricultural uses in the AG-80 zone.

The approval of the Use Permit will authorize the construction of the education campus, and field instruction area and will be the governing use document for the property. The property currently is under the regulations of a Use Permit for mining that expired in June 2019. The mining Use Permit requires that the disturbed area be reclaimed to non-irrigated pasture per the approved reclamation plan. The proposed project would change the final use of the property; thus, overriding the approved reclamation plan. If the proposed project is not approved by the Board of Supervisors, then the property owner would need to reclaim the land as stated in the reclamation plan.

Upon approval of the Use Permit for the private school, the project is consistent with all applicable zoning for agricultural use Impacts are considered less than significant.

IMPACT: CONFLICT WITH WILLIAMSON ACT

There is one existing Williamson Act Contract (69-AP-035A) that covers the entire project site (approximately 1,500 acres) (see Plate AG-4). The landowner initiated the non-renewal process for this contract on November 21, 2014. Under the non-renewal process, the contract will expire in the year 2024, and the land would no longer be subject to Williamson Act contract restrictions.

The project proposal requests to construct a new education campus which is not compatible with the existing Williamson Act contract. The field equipment training was determined to be substantially compliant with the allowed mining use. However, in order to proceed with the construction of the education campus, the applicant would need to wait until 2024 when the contract expires or, as proposed, file for cancellation for the 25 acre campus area. The cancellation process requires findings to be made as outlined in Section 51282 of the Act. The project applicant has prepared the necessary analysis to make the findings, included as Appendix AG-2, and a brief discussion is presented here.

In order for the County Board of Supervisors to approve cancellation of a contract consistent with the Act, they must make all of the following findings:

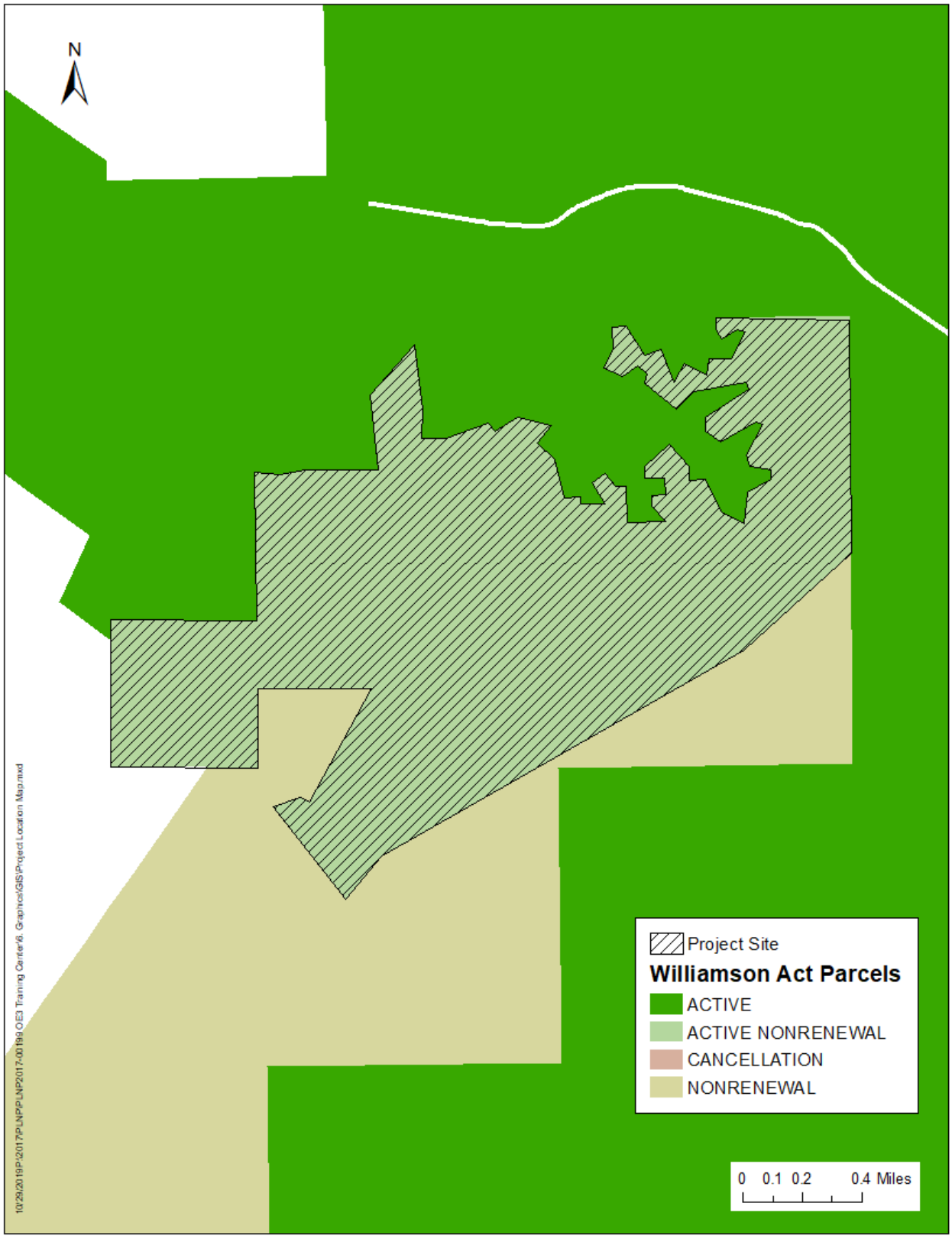
In order for the County Board of Supervisors to approve cancellation of a contract consistent with the Act, they must make all of the following findings:

1. That the cancellation is for land on which a notice of nonrenewal has been served.
2. That cancellation is not likely to result in the removal of adjacent lands from agricultural use.
3. That cancellation is for an alternative use which is consistent with the applicable provisions of the city or county general plan.
4. That cancellation will not result in discontiguous patterns of urban development.
5. That there is no proximate non-contracted land which is both available and suitable for the use to which it is proposed the contracted land be put, or, that development of the contracted land would provide more contiguous patterns of urban development than development of proximate non-contracted land.

For items 1 through 4, the following findings can be made:

1. The contract is in non-renewal.
2. The cancellation portion is in the center of the parcel and the intent is to re-enter into contract on the remaining property which will act as a “buffer’ to adjacent properties. The project does not require the use of adjacent land beyond the property.
3. The cancellation of the land is for an alternative use which is allowed by the County’s General Plan and Zoning Code.
4. The proposed project is not a typical urban development and will not require the extension of urban services. Nor does the project involve residential or commercial uses and therefore would not result in a discontiguous pattern of urban development.

Plate AG-4: Williamson Act Map



For item 5, the applicant has completed an extensive review of all properties within 3.5 miles of the proposed campus site. To identify suitable parcels, parcels were eliminated that are smaller than 15 acres, under Williamson Act contract, zoning/land use conflict, designated as Prime Farmland by the California Department of Conservation, and parcels that are encumbered and/or surrounded by existing land uses that would be incompatible with the project. Applying the elimination factors, of the 3,504 parcels within the search boundary, only 16 parcels remain potentially suitable and proximate (Plate AG-5). A closer look at parcel specific habitat was conducted for the remaining 16 parcels. Using agency databases (California Natural Diversity Database and the USACE Six Counties Aquatic Resources Inventory), 12 of the 16 remaining parcels were eliminated from being suitable because they have a significant amount of habitat (Plate AG-6). Additionally, due to the specific needs of the students and training methods, the campus needs to be very close, if not adjacent to the field instruction area to operate efficiently. These 12 parcels are furthest away from existing OE3 owned properties (dormitories and field instruction area).

As a result, only four parcels are considered suitable and proximate to the existing OE3 owned properties. Reference Plate AG-7 for location of suitable parcels. All of these parcels have a significant amount of habitat and provided that all regulatory permitting could be obtained, the education campus could be placed so that school operations are not significantly affected. However, none of these parcels are currently for sale and are not available.

Plate AG-5: Potentially Suitable and Proximate Properties

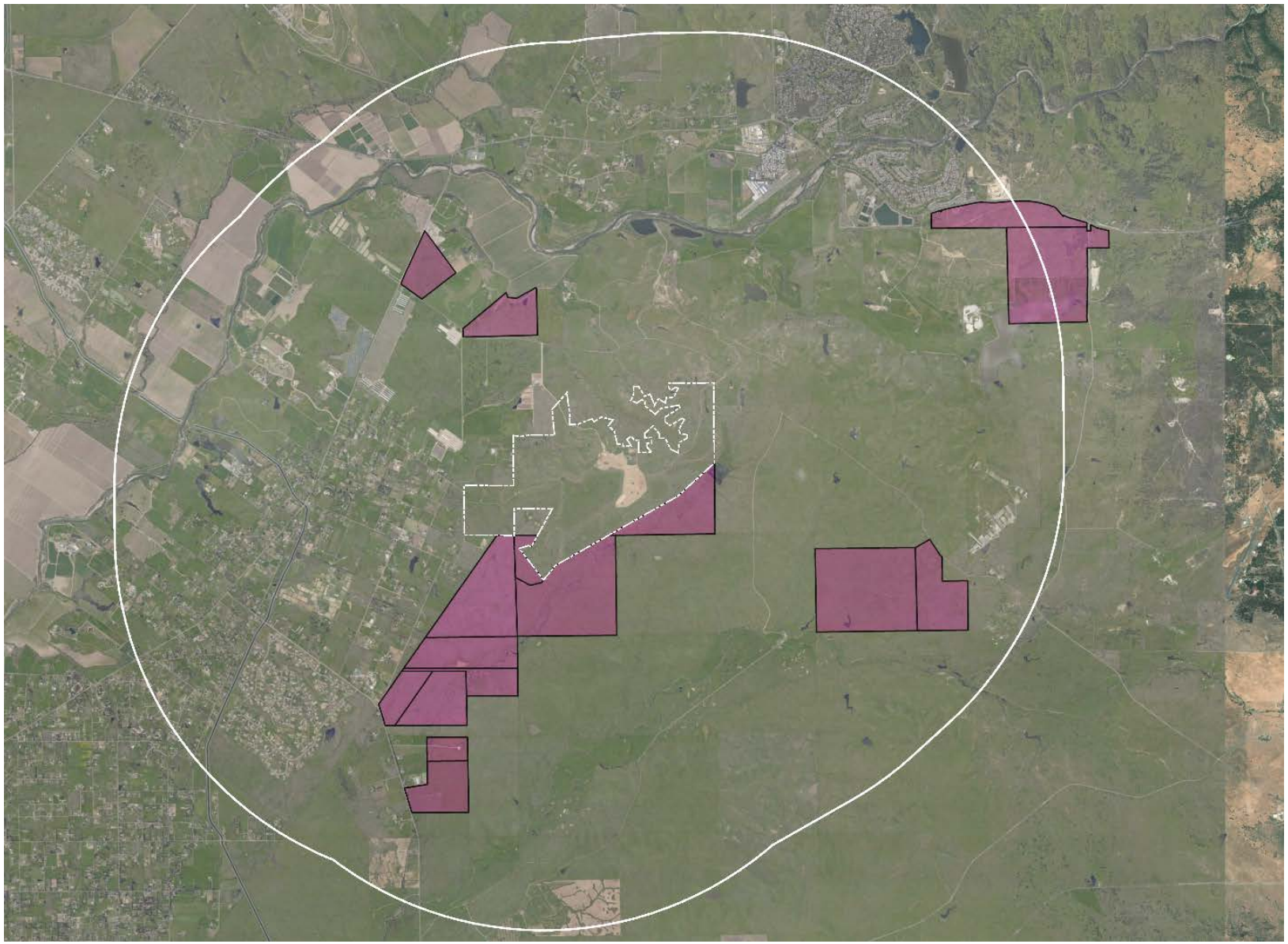
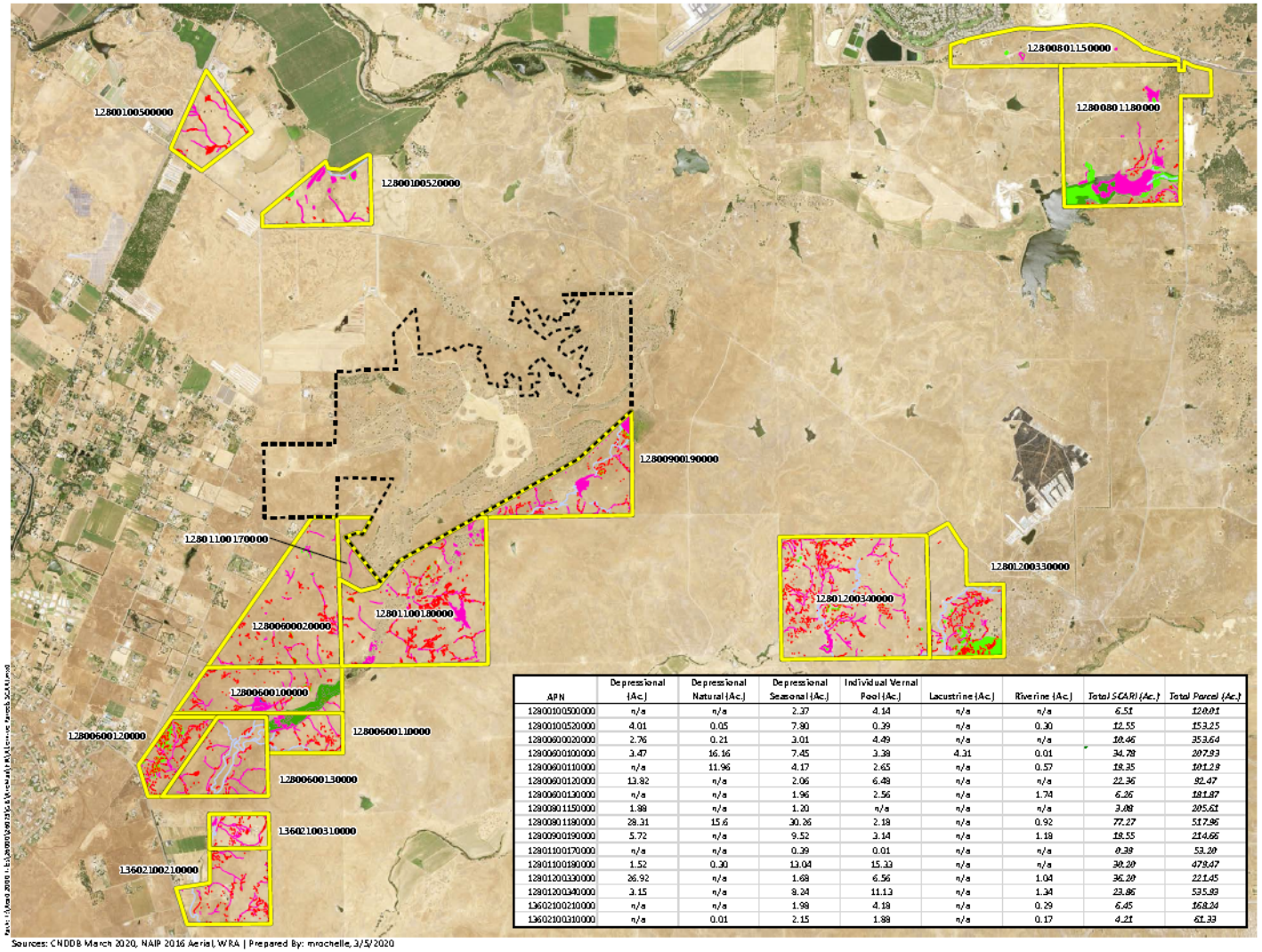


Plate AG-6: Biological Habitat Review of 16 Parcels



APN	Depressional (Ac.)	Depressional Natural (Ac.)	Depressional Seasonal (Ac.)	Individual Vernal Pool (Ac.)	Lacustrine (Ac.)	Riverine (Ac.)	Total SCARI (Ac.)	Total Parcel (Ac.)
128001005000000	n/a	n/a	2.37	4.14	n/a	n/a	6.51	128.01
128001005200000	4.01	0.05	7.80	0.39	n/a	0.30	12.55	153.25
128006000200000	2.76	0.21	3.01	4.49	n/a	n/a	10.46	353.64
128006001000000	3.47	16.16	7.45	3.38	4.31	0.01	34.78	207.93
128006001100000	n/a	11.96	4.17	2.65	n/a	0.57	19.35	101.29
128006001200000	13.82	n/a	2.06	6.48	n/a	n/a	22.36	82.47
128006001300000	n/a	n/a	1.96	2.56	n/a	1.74	6.26	181.87
128008011500000	1.88	n/a	1.20	n/a	n/a	n/a	3.08	205.61
128008011800000	28.31	15.6	30.26	2.18	n/a	0.92	77.27	517.96
128009001900000	5.72	n/a	9.52	3.14	n/a	1.18	19.55	214.66
128011001700000	n/a	n/a	0.39	0.01	n/a	n/a	0.39	53.20
128011001800000	1.52	0.30	13.04	15.33	n/a	n/a	30.20	479.47
128012003300000	26.92	n/a	1.68	6.56	n/a	1.04	36.20	221.45
128012003400000	3.15	n/a	8.24	11.13	n/a	1.34	23.86	535.93
136021002100000	n/a	n/a	1.98	4.18	n/a	0.29	6.45	168.24
136021003100000	n/a	0.01	2.15	1.88	n/a	0.17	4.21	61.33

Sources: CNDDB March 2020, NAIP 2016 Aerial, WRA | Prepared By: mrochelle, 3/5/2020

Figure X.
Six Counties Aquatic Resources Inventory (SCARI) for Alternative Parcels

OE3
Slaughouse,
Sacramento County, California

Project Area
Alternative Parcels

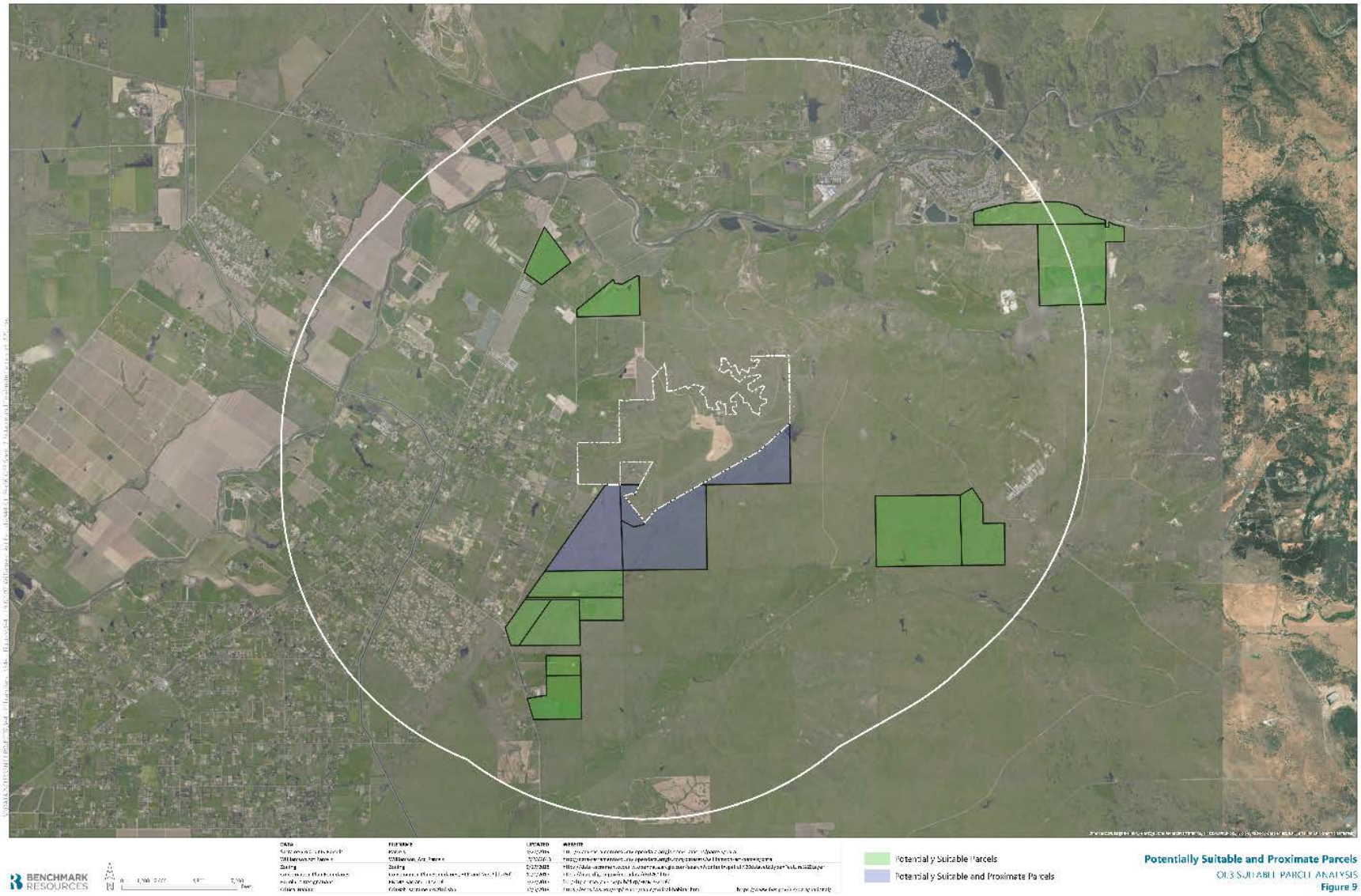
SCARI Data

Depressional
Depressional Natural
Depressional Seasonal
Individual Vernal Pool
Lacustrine
Riverine

N
0 0.5 1
Miles

wra
ENVIRONMENTAL CONSULTANTS

Plate AG-7: Proximate and Suitable Parcels



CONCLUSION

As seen from this analysis, the cancellation of the existing Williamson Act for the 25 acre proposed education campus is justified. Further, the applicant proposes to re-enter into an active contract for a large portion of the remaining property. Since the field instruction area will disturb up to 80 acres during each five-year rotation, there will always be an 80-acre portion that is not used for agricultural (grazing) practices. Thus this area will be left to non-renew and the new contract would include all remaining land. The new contract will include the field instruction/heavy equipment operation as a compatible use. Upon the Board of Supervisor's approval of the requested cancellation, conflicts with the Williamson Act are ***less than significant***.

IMPACT: INTRODUCE INCOMPATIBLE USES IN THE VICINITY OF EXISTING AGRICULTURAL USES

The existing uses on the project site consist of agricultural uses and field equipment training. The existing area disturbed by field equipment training is approximately 90 acres and is within the larger 175 acre area identified to be mined in the prior Use Permit. Of the remaining land, approximately 1,400 acres are leased to local cattle ranchers. The surrounding uses are all agricultural as well; however, some are protected conservation resource areas, which likely limit the type and intensity of agriculture.

The proposed project will continue current grazing practices in the areas not used for field training (this includes the field instruction areas out of rotation). Therefore, approximately 1,395 acres will remain available for grazing. In addition, the project is not of a type that would induce surrounding agricultural land uses to convert to non-agriculture uses. None of the surrounding agricultural practices include intensive crops; therefore, the proposed project will not introduce incompatible uses; impact is ***less than significant***.

Impact: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest land

According to the Sacramento County Important Farmlands Map published by the California Department of Conservation, 2016, the majority of the project site is classified as grazing land. The area in the center of the property is considered other land. This designation was given based on the aerial photo imagery interpretation from the past five years showing this land disturbed by mining activities. The mining Use Permit did not require compensation for the loss of agricultural land since the mining use is considered temporary and the reclamation plan required restoration to agricultural uses. County staff reached out to the State Department of Conservation, Division of Land Resource Protection, regarding the mapping process. The State confirmed that if the local jurisdiction requests for land to be converted from "Other Land" back to farmland (say following reclamation), the State would review the information and photo evidence in support of the conversion and update the Farmland Map as needed (P. Hennessy, pers. comm. 12-4-2019). This use permit replaces the reclamation plan for the approved

surface mining; therefore, even though the Farmland Map does not show the 90 acre disturbed portion as grazing land, for the purpose of this analysis it is considered grazing land.

The existing uses on the project site consist of agricultural uses and field equipment training. The existing area disturbed by field equipment training is approximately 90 acres and is within the larger 175 acre area identified to be mined in the prior Use Permit. Of the remaining land, approximately 1,400 acres are leased to local cattle ranchers. At the time of the current Use Permit application field equipment training is occurring in the existing disturbed area permitted by the prior use permit. The applicant proposes to restore each disturbed area back to agricultural uses, while opening up another 80-acre portion of the property to heavy equipment instruction, on a rotating basis, thereby only disturbing 80-acres at a time for instructional purposes.

The proposed rotating disturbed area is considered the baseline condition and is not included in the acreage the project will impact. The remaining field instruction area (345 acres) and all areas outside of the development acreage will continue to be leased to local ranchers and/or placed in future conservation easements for the preservation of agricultural land and habitat. The project will permanently convert 25 acres of agricultural land for the proposed education campus beyond the baseline disturbance.

The proposed project will impact 25 acres in total, which does not exceed General Plan Policy AG-5 which requires projects resulting in the conversion of more than fifty (50) acres of farmland to mitigate within Sacramento County at a 1:1 ratio and impacts are considered ***less than significant***.

IMPACT: CONFLICT WITH EXISTING ZONING FOR, OR CAUSE REZONING OF, FOREST LAND, TIMBERLAND, OR TIMBERLAND ZONED TIMBERLAND PRODUCTION, OR CONFLICT WITH FOREST LAND OR RESULT IN THE LOSS OF FOREST LAND

The project would not conflict with existing zoning for, or cause rezoning of, forestland (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]) because the project site and surrounding area do not contain forestland. No forestland, timberland, or timberland production areas, as zoned by applicable state and local regulations (County Zoning Code), exist within Sacramento County. There are no large forested areas in the county, no commercial forestry production, and therefore, no known timber resources. While Sacramento County habitat types include woodland and urban forest, these areas are not classified as timberlands according to the existing Sacramento County zoning designations. Further, neither timber production nor major harvesting operations contribute to the local economy.

As discussed above, the existing General Plan land use designation for the project site is General Agricultural 80. The existing zoning designation is AG-80 (Agricultural 80-acre minimum) with a significant portion covered by a surface mining overlay (refer to

Plate LU-2 and Plate LU-3). In addition, the County Important Farmlands Map published by the California Department of Conservation, 2016, the majority of the project site is classified as grazing land. The area in the center of the property is considered other land. No portion of the Project site is designated as forestland. As a result the project would not result in the loss of forestland or conversion of forestland to a non-forest use because the project site does not contain forestland.

5 AIR QUALITY

INTRODUCTION

The Sacramento Metropolitan Area is a federal ozone non-attainment area, and one of the top ten worst air quality areas nationally[1]. In Sacramento County, pollutants of greatest concern are ozone precursors (hydrocarbons and nitrogen oxides), carbon monoxide (CO), particulate matter (PM_{10} and $PM_{2.5}$), and other visibility-reducing material.

AIR QUALITY SETTING

ATMOSPHERIC CONDITIONS

The geography and weather patterns of the Sacramento Valley are conducive to high air pollution levels. The mountain ranges surrounding the valley are natural air current barriers, which restrict most of the circulating winds of lower elevations from mixing and dispersing air pollutants of the valley. Sacramento is also subject to thermal air inversions, especially during the summer and fall months, wherein a layer of cool air is overlain by warmer air. Also, solar radiation from the abundant sunshine in Sacramento acts as a catalyst to drive chemical reactions between atmospheric pollutants such as reactive hydrocarbons and nitrogen oxides; the result is photochemical smog. Thus, the combination of surrounding mountains, abundant sunshine, thermal air inversions and wind patterns make the Sacramento area susceptible to high levels of air pollution.

EXISTING AIR QUALITY

The Sacramento Federal Nonattainment Area for ozone (SFNA) is comprised of five air districts in the southern portion of the Sacramento air basin. The SFNA air districts include all of Sacramento and Yolo Counties, and portions of El Dorado, Placer, Sutter and Solano Counties (see Plate AQ-1). With the exception of ozone and particulate matter standards, this area is in attainment for all state and national ambient air quality standards (AAQS). However, the SFNA is designated a “severe” nonattainment area for the federal eight hour AAQS for ozone. As a part of the SFNA, Sacramento County is out of compliance with the state one hour and the federal eight hour AAQS for ozone.

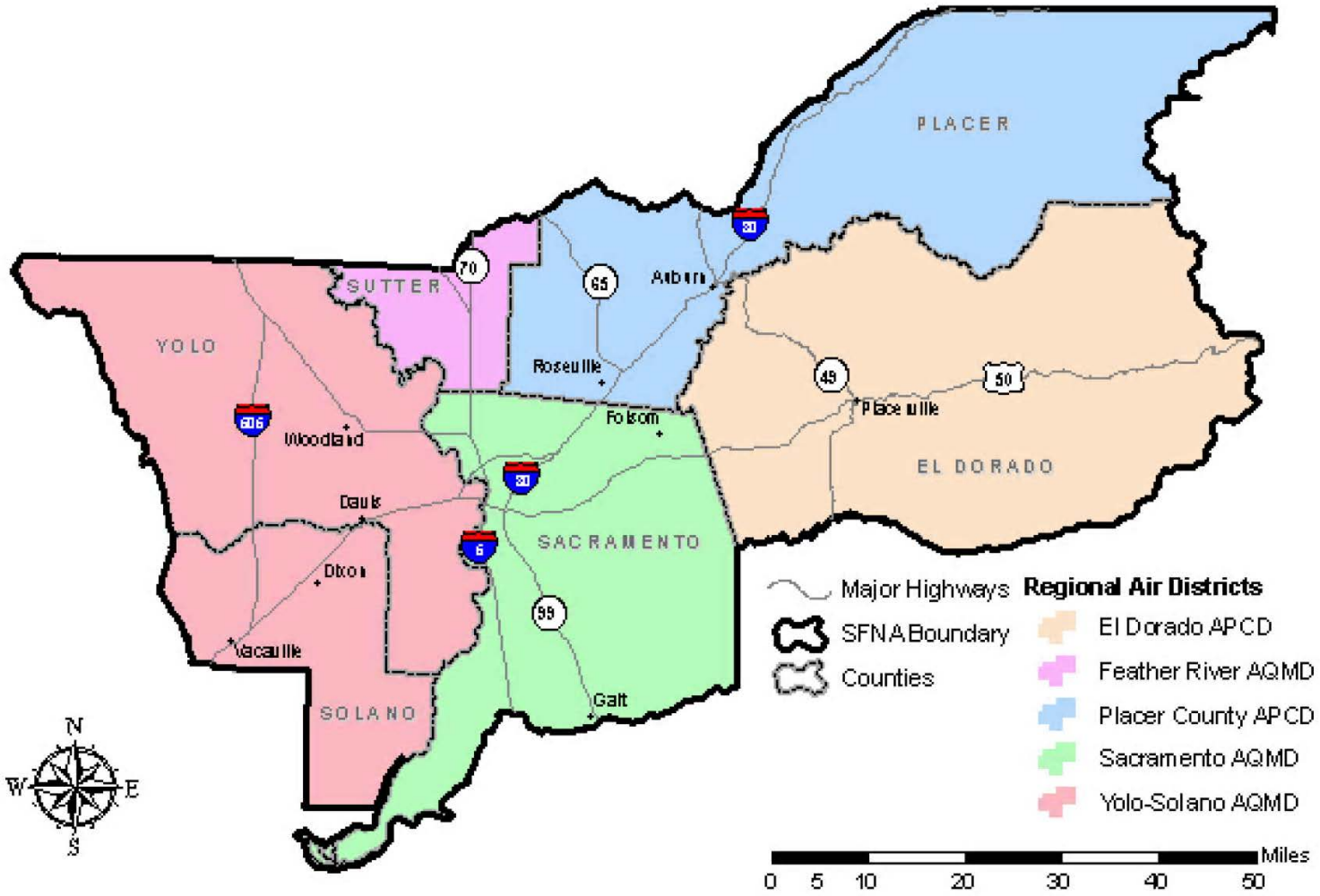
With respect to particulate matter, Sacramento County is designated as nonattainment for the state PM_{10} 24 hour standard and annual mean, the state $PM_{2.5}$ annual standard and the federal $PM_{2.5}$ 24 hour standard.

[1] American Lung Association, State of the Air 2019, ranked #5 for ozone.

Ambient air quality standards define clean air. Specifically, federal and state AAQS establish the concentration above which a pollutant is known to cause adverse health effects to sensitive groups within the population, such as children and the elderly. Because AAQS have been established for specific pollutants using health-based criteria, the pollutants for which standards have been set are known as “criteria” pollutants. For some of the criteria pollutants, the state standards are more stringent than the federal standards. The differences in the standards are due to variations in health studies and interpretations involved in the standard-setting process.

The amount of pollutants released and the atmosphere’s ability to transport and dilute the pollutants affect a given pollutant’s concentration in the atmosphere. Factors affecting transport and dilution include terrain, wind, atmospheric stability, and, for photochemical pollutants, sunlight. Sacramento’s poor air quality can largely be attributed to emissions, geography, and meteorology.

Plate AQ-1: Sacramento Federal Nonattainment Area (SNFA) for Ozone



Source: Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan, December 19, 2008 (revised in 2011, 2013 and 2017). The map in the adopted plan and the proposed revision are identical.

REGULATORY SETTING

POLLUTANTS AND AIR QUALITY STANDARDS

The criteria pollutants of greatest concern are due to construction activities and vehicle emissions. The pollutants from these activities are carbon monoxide (CO), ozone (O_3), and respirable particulate matter (PM_{10} and $PM_{2.5}$). A summary of state and federal ambient air quality standards for criteria pollutants is shown in Table AQ-1, below. Table AQ-2 shows the pollutants of concern within Sacramento County and their attainment status with state and federal standards.

CARBON MONOXIDE (CO)

State and federal CO standards have been set for both 1-hour and 8-hour averaging times. The state 1-hour standard is 20 parts per million (ppm) by volume, while the federal 1-hour standard is 35 ppm. Both state and federal standards are 9 ppm for the 8-hour averaging period. CO is a public health concern because it combines readily with hemoglobin and thus reduces the amount of oxygen transported in the bloodstream.

Motor vehicles are the dominant source of CO emissions in most areas. High CO levels develop primarily during winter when periods of light winds combine with the formation of ground level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

PARTICULATE MATTER (PM_{10} & $PM_{2.5}$)

Health concerns associated with suspended particulate matter focus on those particles small enough to reach the lungs when inhaled. Few particles larger than 10 microns in diameter reach the lungs, but the smaller particles have been shown to have the most serious health risks. Consequently, there are federal and state air quality standards for particulate matter 10 microns or less in diameter (PM_{10}) and for particulate matter 2.5 microns or less in diameter ($PM_{2.5}$).

The state PM_{10} standards are 50 micrograms per cubic meter ($\mu g/m^3$) as a 24-hour average and 20 $\mu g/m^3$ as an annual arithmetic mean. The federal PM_{10} standard is 150 $\mu g/m^3$ as a 24-hour average. The $PM_{2.5}$ standard has been set by the state at a concentration of 12 $\mu g/m^3$ as an annual arithmetic mean, and the federal standards are 12 $\mu g/m^3$ as an annual arithmetic mean and 35 $\mu g/m^3$ in a 24-hour period.

Particulate matter conditions in Sacramento County reflect a mix of rural and urban sources, including agricultural activities, industrial emissions, dust suspended by vehicle traffic, and secondary aerosols formed by reactions in the atmosphere.

Ozone (O_3)

Ozone is not usually emitted directly into the air, but is created at ground level by a chemical reaction between oxides of nitrogen (NO_X) and volatile organic compounds (VOC) in the presence of sunlight. The United States Environmental Protection Agency formerly called VOC reactive organic gases, or ROG – the latter term is still in use in most modeling programs and by the Sacramento Metropolitan Air Quality Management District. For this reason, both the term VOC and ROG may be used; the reader should be aware that these are the same constituents. Because photochemical reaction rates depend on the intensity of ultraviolet light and air temperature, ozone is primarily a summer air pollution problem. Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and can cause substantial damage to vegetation and other materials.

State and federal standards for ozone have been set for an 8-hour averaging time, and the state also has set a standard for a 1-hour averaging time. There is a federal 1-hour standard in existence, but the standard only applies to Early Action Compact Areas, and Sacramento County is not in such an area. The state 8-hour standard is 0.070 ppm (137 $\mu g/m^3$) and the 1-hour standard is 0.09 ppm (180 $\mu g/m^3$). The federal 8-hour standard is 0.070 ppm (137 $\mu g/m^3$).

Table AQ-1: State and Federal Ambient Air Quality Standards

Pollutant	Symbol	Average Time	Standard, as parts per million		Standard, as micrograms per cubic meter		Violation Criteria	
			California	National	California	National	California	National
Ozone	O_3	1 hour	0.09	--	180	--	If exceeded	If exceeded more than 3 days in 3 years
		8 hours	0.070	0.070	137	--	If exceeded	If exceeded more than 3 days in 3 years
Carbon monoxide	CO	8 hours	9.0	9	10,000	10,000	If exceeded	If exceeded more than 1 day per year
		1 hour	20	35	23,000	40,000	If exceeded	If exceeded more than 1 day per year
Nitrogen dioxide	NO_2	Annual arithmetic mean	0.030	0.053	57	100	If exceeded	If exceeded
		1 hour	0.18	0.100	339	188	If exceeded	
Sulfur dioxide	SO_2	24 hours	0.04	--	105	--	If exceeded	If exceeded more than 1 day per year
		3 hour	--	0.5	--	1,300	N/A	If exceeded more than 1 day per year
		1 hour	0.25	0.075	655	196	If exceeded	N/A
Hydrogen sulfide	H_2S	1 hour	0.03	--	42	--	If ≥	N/A
Vinyl chloride	C_2H_3Cl	24 hours	0.01	--	26	--	If ≥	N/A
Respirable particulate matter	PM_{10}	Annual arithmetic mean	--	--	20	--	If exceeded	N/A
		24 hours	--	--	50	150	If exceeded	If exceeded more than 1 day per year
Fine particulate matter	$PM_{2.5}$	Annual arithmetic mean	--	--	12	12	If exceeded	If exceeded over 3-year average
		24 hours	--	--	--	35	If exceeded	If exceeded over 3-year average
Sulfate particles	SO_4	24 hours	--	--	25	--	If ≥	N/A
Lead particles	Pb	Calendar Quarter	--	--	--	1.5	N/A	If exceeded more than 1 day per year
		Rolling 3-month average	--	--	--	0.15	If ≥	N/A
		30-day average	--	--	1.5	--	If ≥	N/A

Source: California Air Resources Board. "Ambient Air Quality Chart". May 4, 2016. Accessed: March 15, 2019. http://www.arb.ca.gov/research/aaqs/aaqs2.pdf

NOTES: **1)** All standards are based on measurements at 25 C and 1 atmosphere pressure. **2)** National standards shown are the primary (health effects) standards. **3)** N/A = not applicable

Table AQ-2: Sacramento County Attainment Status

Pollutant	Attainment with State Standards	Attainment with Federal Standards
Ozone	Non-Attainment (1 hour Standard[1] and 8 hour Standard)	Attainment (1 hour Standard[2]) Non-Attainment, Classification = Severe -15* (8 hour[3] Standards)
Particulate Matter 10 Micron	Non-Attainment (24 hour Standard and Annual Mean)	Attainment (24 hour Standard)
Particulate Matter 2.5 Micron	Attainment (Annual Standard)	Non-Attainment (24 hour Standard) and Attainment (Annual)
Carbon Monoxide	Attainment (1 hour and 8 hour Standards)	Attainment (1 hour and 8 hour Standards)
Nitrogen Dioxide	Attainment (1 hour Standard and Annual)	Unclassified/Attainment (1 hour and Annual)
Sulfur Dioxide[4]	Attainment (1 hour and 24 hour Standards)	Attainment/Unclassifiable[5]
Lead	Attainment (30 Day Standard)	Attainment (3-month rolling average)
Visibility Reducing Particles	Unclassified	No Federal Standard
Sulfates	Attainment (24 hour Standard)	No Federal Standard
Hydrogen Sulfide	Unclassified (1 hour Standard)	No Federal Standard

1. Per Health and Safety Code (HSC) § 40921.59(c), the classification is based on 1989-1001 data, and therefore does not change.

2. Air Quality meets Federal 1-hour Ozone standard (77 FR 64036). EPA revoked this standard, but some associated requirements still apply. The SMAQMD attained the standard in 2009.

3. For both that 1997 and the 2008 Standard.

4. Cannot be classified.

5. Designation was made as part of EPA's designations for the 2010 SO_2 Primary National Ambient Air Quality Standard – Round 3 Designation in December 2017.

*Designations based on information from http://www.arb.ca.gov/desig/changes.htm#reports

Source: SMAQMD. "Air Quality Pollutants and Standards". Web. Accessed: March 15, 2019. http://airquality.org/air-quality-health/air-quality-pollutants-and-standards

FEDERAL, STATE AND LOCAL AGENCIES

Air quality in Sacramento County is regulated by several agencies, which include the U.S. Environmental Protection Agency (EPA), California Air Resources Board (CARB), and Sacramento Metropolitan Air Quality Management District (SMAQMD). Each of these agencies develops rules and/or regulations to attain the goals or directives

imposed upon them through legislation. Although EPA regulations may not be superseded, both state and local regulations may be more stringent. In general, air quality is evaluated based upon standards developed by federal and state agencies. Mobile sources of air pollutants are largely controlled by federal and state agencies, while local air pollution control districts or air quality management districts (AQMD) regulate stationary sources.

Air pollution problems in Sacramento County are primarily the result of locally generated emissions. However, Sacramento County has been identified as a source of ozone precursor emissions that occasionally contribute to air quality problems in the San Joaquin Valley Air Basin and the Northern Sacramento Valley Air Basin. Consequently, the air quality planning for Sacramento County must not only correct local air pollution problems but must also reduce the impacts from the area on downwind air basins.

Sacramento Metropolitan Air Quality Rules and Regulations

SMAQMD regulates air quality in Sacramento County through its permit authority over stationary sources of emissions, through its vehicle and fuels management program, and through planning and review activities. All projects are subject to SMAQMD Rules and Regulations in effect at the time of construction. Several SMAQMD Rules pertinent to the project include:

Rule 201: General Permit Requirements. Any project that includes the use of equipment capable of releasing emissions to the atmosphere may require permit(s) from SMAQMD prior to equipment operation. The applicant, developer or operator of a project that includes an emergency generator, boiler, or heater should contact the District early to determine if a permit is required, and to begin the permit application process. Portable construction equipment (e.g. generator, compressors, pile drives, lighting equipment, etc.) with an internal combustion engine over 50 horsepower are required to have a SMAQMD permit or a California Air Resources Board portable equipment registration.

Rule 403: Fugitive Dust. The developer or contractor is required to control dust emissions from earth moving activities or any other construction activity to prevent airborne dust from leaving the project site.

Rule 442: Architectural Coatings. The developer or contractor is required to use coatings that comply with the volatile organic compound content limits specified in the rule.

The SMAQMD was created by state law to enforce local, state, and federal air pollution regulations within the Sacramento Valley Air Basin. The SMAQMD's overall mission is to achieve clean air goals by leading the Sacramento region in protecting public health and the environment through effective programs, community involvement, and public education. The SMAQMD interacts with local, state, and federal government agencies, the business community, environmental groups, and private citizens to achieve these goals. The SMAQMD regulates air pollutant emissions from stationary sources through

permit limitations and inspection programs and oversees compliance with state and federal mandates by adopting rules and regulations as necessary.

Because the Sacramento Valley Air Basin is in nonattainment for ozone, PM_{10}, and $PM_{2.5}$, the SMAQMD requires the implementation of the following Basic Construction Emission Control Practices (BCECPs), regardless of the project's significance determination under CEQA. Since these are already required by existing rules and regulations, it is not necessary to include them as mitigation.

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to, soil piles, graded areas, unpaved parking areas, staging areas, and access roads;
- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered;
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited;
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph);
- All roadways, driveways, sidewalks, and parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used;
- Minimize idling time by either shutting equipment off when not in use or reducing time of idling to 5 minutes. Provide clear signage that posts this requirement for workers at the entrances to the site; and
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.

Sacramento County

Local governments, such as Sacramento County, have the authority and responsibility to reduce air pollution through the land use decision-making authority allowed by their police power. Specifically, local governments are responsible for the mitigation of emissions resulting from land use decisions and for the implementation of transportation control measures as outlined in federal, state and local air quality attainment plans. In general, a first step toward implementation of a local government's responsibility is accomplished by identifying air quality goals, policies, and implementation measures in its general plan. Through capital improvement programs, local governments can fund infrastructure that contributes to improved air quality, by requiring such improvements as bus turnouts, energy-efficient street lights, and synchronized traffic signals. In accordance with CEQA requirements and the CEQA review process, local governments assess air quality impacts, require mitigation of potential air quality impacts by conditioning discretionary permits, and monitor and enforce implementation of such mitigation.

The Sacramento County General Plan includes the following policies that pertain to air quality for the proposed project:

AQ-3. Buffers and/or other appropriate mitigation shall be established on a project-by-project basis and incorporated during review to provide for protection of sensitive receptors from sources of air pollution or odor. The California Air Resources Board's "Air Quality and Land Use Handbook: A Community Health Perspective", and the AQMD's approved Protocol (Protocol for Evaluating the Location of Sensitive Land uses Adjacent to Major Roadways) shall be utilized when establishing these buffers.

AQ-4. Developments which meet or exceed thresholds of significance for ozone precursor pollutants as adopted by the Sacramento Metropolitan Air Quality Management District (SMAQMD), shall be deemed to have a significant environmental impact. An Air Quality Mitigation Plan shall be submitted to the County of Sacramento prior to project approval, subject to review and recommendation as to technical adequacy by the Sacramento Metropolitan Air Quality Management District.

AQ-10. Encourage vehicle trip reduction and improved air quality by requiring development projects that exceed the SMAQMD's significance thresholds for operational emissions to provide on-going, cost-effective mechanisms for transportation services that help reduce the demand for existing roadway infrastructure.

AQ-16. Prohibit the idling of on-and off-road engines when the vehicle is not moving or when the off-road equipment is not performing work for a period of time greater than five minutes in any one-hour period.

AQ-17. Promote optimal air quality benefits through energy conservation measures in new development.

AQ-19. Require all feasible reductions in emissions for the operation of construction vehicles and equipment on major land development and roadway construction projects.

AQ-21. Support SMAQMD's particulate matter control measures for residential wood burning and fugitive dust.

METHODOLOGY

The SMAQMD "Guide to Air Quality Assessment in Sacramento County" (December 2009, as amended, hereinafter called the SMAQMD Guide) contains screening thresholds for significant impacts. This project is unique and does not fit the traditional project types for which the screening thresholds were created. Therefore, air quality modeling was conducted for all aspects of the project. For the construction and operation of the new campus the model used was the California Emissions Estimator Model (CalEEMod) version 2016.3.2 – a statewide model designed to provide a uniform

platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions including greenhouse gas emissions, from land use projects. Emissions associated with the field equipment training are estimated using a spreadsheet created by Yorke Engineering, LLC, which was developed using CARB OFFROAD Model guidance (reference Appendix AQ-1).

There are existing operations at the project site, which make up the CEQA baseline for air quality. These operations consist of field equipment training, ground disturbance of 90 acres, and transportation of students and instructors to and from the training site daily. The air quality report prepared by Yorke Engineering, LLC, February 2018, calculated emissions for the baseline condition, the proposed project condition and construction activities (Appendix AQ-1). Baseline operations will be subtracted from the plus-project operational emissions.

CONSTRUCTION IMPACT METHODOLOGY

Construction air quality modeling requires detailed information about the exact amount of acreage of construction involved, the amount of pavement, and the number and type of construction equipment. For the proposed project, construction impacts are limited to the construction of the new education campus.

CalEEMod version 2016.3.2 was used to calculate the emissions generated during the construction of the new education campus. The campus building square footage and modifications to the number of trips were entered into the model. Model results are then compared with the significance thresholds of 80 lbs/day (14.6 tons/year) for PM_{10}, 82 lbs/day (15 tons/year) for $PM_{2.5}$ and 85lbs/day for NO_x.

OPERATIONAL IMPACT METHODOLOGY

For this analysis, operational impacts include emissions associated with ozone precursors (NO_x and Reactive Organic Gases (ROG)) and fugitive dust (PM_{10} and $PM_{2.5}$). An analysis of emissions associated with carbon monoxide and toxic air contaminants do not apply to this project for the following reasons: the project does not involve a significant increase in traffic congestion, nor is the project cited near sensitive receptors. Operational impact analysis includes the operation of the education campus and heavy equipment field instruction (ground disturbance and equipment exhaust).

Most ozone precursor emissions result from mobile and area sources. Mobile sources include motor vehicle traffic, while area sources include pollutants generated from furnaces, water heaters/boilers, facility maintenance equipment, and consumer products.

CalEEMod version 2016.3.2 was used to calculate the emissions generated during the operation of the new education campus and the project specific spreadsheet developed by Yorke, was used to calculate the emissions generated during heavy equipment field instruction. The specific type, number and operation hours for the heavy equipment were entered into the Yorke spreadsheet. Model results are then compared with the significance thresholds of 80 lbs/day (14.6 tons/year) for PM_{10}, 82 lbs/day (15 tons/year)

for $PM_{2.5}$ and 65 lbs/day for NO_x. and ROG. . All full list of the assumptions, calculations, and data is provided in Appendix AQ-1.

Significance Criteria

According to the CEQA Appendix G criteria a project may be deemed to have a significant effect on the environment if it:

1. Conflict with or obstruct implementation of the applicable air quality plan,
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment,
3. Expose sensitive receptors to substantial pollutant concentrations, or
4. Result in other emissions (e.g. odors) adversely affecting a substantial number of people.

SMAQMD has adopted significance thresholds for CEQA projects within the District. The adopted significance thresholds for criteria pollutants of the greatest concern in the Sacramento area are shown below in Table AQ-4:

Table AQ-3: SMAQMD Significance Thresholds

	ROG[1] (lbs/day)	NO_x (lbs/day)	CO ($\mu g/m^3$)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
Construction (short-term)	None	85	CAAQS[2]	80[3]	82[3]
Operational (long-term)	65	65	CAAQS	80[3]	82[3]

1. Reactive Organic Gas
2. California Ambient Air Quality Standards (see Table AQ-4).
3. Only applies to projects for which all feasible best available control technology (BACT) and best management practices (BMPs) have been applied. Projects that fail to apply all feasible BACT/BMPs must meet a significance threshold of 0 lbs/day.
4. Annual Thresholds are determined for PM_{10} and $PM_{2.5}$, 14.6 tons/year and 15 tons/year, for both construction and operational.

Short-term impacts are associated with project construction, and long-term impacts are associated with mobile and area emissions during operation of a completed project. The analyses below focus on ozone precursors and particulate matter (ROG, NO_x, PM_{10} and $PM_{2.5}$), which is consistent with the SMAQMD Guidelines. Analyses are not included for sulfur dioxide, lead, and other constituents because there are no mass emission thresholds; these are concentration-based limits in the AAQS which require substantial, point-source emissions before exceedance will occur. The Project does not include any elements that will generate substantial point-source emissions. More specifically:

a. Page 3-1 of the SMAQMD Guide states that for construction activities, carbon monoxide, sulfur dioxide, and lead are of less concern because construction

activities are not likely to generate substantial quantities of these criteria air pollutants (CAPs).

b. Page 4-1 of the SMAQMD Guide states that for most land use projects pollutants such as sulfur dioxide and lead are of less concern because operational activities are not likely to generate substantial quantities of these CAPs and the Sacramento Valley Air basin has been in attainment for these CAPs for multiple years.

c. Page 4-7 of the SMAQMD Guide states that except for carbon monoxide, land use development projects do not typically have the potential to result in localized concentrations of CAPs that exceed or contribute to an exceedance of the respective AAQS.

Table AQ-4: CAAQS Thresholds

Pollutant	Concentration Thresholds
PM_{10}	50 µg/m_3 24-hour standard; 20 µg/m_3 Annual Arithmetic Mean
$PM_{2.5}$	12 µg/m_3 Annual Arithmetic Mean
CO	20 ppm 1- hour standard; 9 ppm 8- hour standard
NO_2	0.18 ppm 1- hour standard; 0.03 ppm Annual Arithmetic Mean
SO_2	0.25 ppm 1- hour standard; 0.04 ppm 24- hour standard
Lead	1.5 µg/m_3 30-day average
Visibility-Reducing Particles	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more due to particles when relative humidity is less than 70 percent
Sulfates	25 µg/m_3 24-hour standard
H_2S	42 µg/m_3 or 0.03 ppm 1-hour standard
Vinyl Chloride	26 µg/m_3 or 0.01 ppm 24-hour standard

IMPACTS AND ANALYSIS

In the following section, impacts of the proposed project related to air quality are discussed. As provided above, these determinations are based on the criteria identified by the SMAQMD and the air quality analysis provided in Appendix AQ-1. The results of air quality modeling are described, and a determination of significance is made.

IMPACT: CONFLICT WITH OR OBSTRUCT WITH THE IMPLEMENTATION OF THE APPLICABLE AIR QUALITY PLAN

The County General Plan has a number of policies related to minimizing air quality impacts from projects. A full General Plan consistency analysis is provided in Appendix AQ-1. In summary, the land use analysis concluded that because project emissions do not exceed SMAQMD emission thresholds, comply with SMAQMD district rules, and

include limited daily vehicle trips, the project would be consistent with applicable air quality General Plan policies and objectives.

SMAQMD is the primary County agency responsible for meeting federal and state air quality standards and adopts various plans, rules, and regulations to attain and maintain those standards. As demonstrated in the impact analysis below and the technical study included in Appendix AQ-1, the project's emissions do not exceed SMAQMD emission thresholds. In addition, the project will be required to comply with applicable SMAQMD rules and regulations including basic emission control practices and attaining any air permits related to campus building operations.

The project will not conflict with or obstruct County General Plan and applicable SMAQMD plans, rules, and regulations. Therefore, this impact is ***less than significant***.

IMPACT: CONSTRUCTION EMISSIONS – INCREASE OF ANY CRITERIA POLLUTANT FOR WHICH THE PROJECT REGION IS NON-ATTAINMENT

Construction activities require the use of various combinations and types of construction equipment. Much of this equipment is likely to be diesel-fueled and would emit NO_X and particulate matter as part of the fuel combustion process. In addition, the disturbance of soils produces fugitive dust.

The project involves the construction of a new 25-acre[2] education campus. The campus will include 60,000 square feet of buildings and ancillary facilities to support up to 80 students. Campus construction is expected to be completed over a 10-year period based on funding. However, construction of the campus was assumed to be completed in one year in the modeling to provide the most conservative emission estimates.

In Table AQ-5 below, the summary of estimated construction emissions for both NO_X and particulate matter are tabulated. The project was modeled with and without mitigation. The term mitigation in CalEEMod includes existing rules and regulations imposed by the local air district and other measures to further reduce potentially significant impacts. The proposed project ran the model including best construction emissions control practices (BCECP) for fugitive dust as mitigation. According to the CalEEMod results for the proposed construction activities, the project will not exceed the thresholds established for NO_X and particulate matter during construction; project-related construction emissions are ***less than significant***.

[2] The air quality analysis was prepared before the latest changes to the campus size. The air quality analysis presumed a 15-acre campus; however, the increase to 25-acres is only in size. The number and size of buildings remain the same, and therefore, modeled emissions are still applicable.

Table AQ-5: Summary of Construction Emissions

Emission	Threshold	Estimated Emissions	
		Unmitigated	Mitigated
NO_x	85 lbs/day	30 lbs/day	30 lbs/day
PM_{10}	Daily: 80 lbs/day Annual: 14.6 tons/yr	Daily: 3.1 lbs/day Annual: 0.38 tons/yr	Daily: 2.7 lbs/day Annual: 0.34 tons/yr
$PM_{2.5}$	Daily: 82 lbs/day Annual: 15 tons/yr	Daily: 2.0 lbs/day Annual: 0.25 tons/yr	Daily: 2.0 lbs/day Annual: 0.25 tons/yr

IMPACT: OPERATIONAL EMISSIONS – INCREASE OF ANY CRITERIA POLLUTANT FOR WHICH THE PROJECT REGION IS NON-ATTAINMENT

Once project construction is completed, additional pollutants are emitted through the use or operation of the site. Long-term emissions of ozone precursors (ROG and NO_x), particulate matter (PM_{10} and $PM_{2.5}$) and carbon monoxide (CO) generated by the project are associated with the operation of the campus building and the heavy equipment field instruction activities.

Generally, a project must have large acreages or intense uses in order to result in significant operational air quality impacts. However, this project is unique in that the operation is similar to continual construction or mining activities. Therefore, the emissions for the proposed project have been estimated using CalEEMod and the Yorke spreadsheet with the following parameters:

- Existing heavy equipment field instruction (equipment list, engine rating, hours of operation)
- Existing soil disturbance up to 95 acres
- Operation of the 25-acre campus [New]
- Heavy equipment field instruction – 15% increase in the hours of operation [New]
- Application of BCECP measures

A full list of the parameters and assumptions for the air quality analysis is included in Appendix AQ-1.

Both the baseline field instruction activities and the new operational activities were calculated. The difference between baseline and the proposed field instruction activities combined with the new building operation was compared to the thresholds of significance for operational emissions. Results are shown in Table AQ-6 below.

Table AQ-6: Summary of Operational Emissions

Emission	Threshold	Baseline	Estimated Emissions above Baseline	
			Before BCECP	After BCECP
NO_x	65 lbs/day	411 lbs/day	68 lbs/day	64 lbs/day
ROG	65 lbs/day	27 lbs/day	6.8	6.4
PM_{10}	Daily: 80 lbs/day Annual: 14.6 tons/yr	Daily: 1,177 lbs/day Annual: 34 tons/yr	Daily: 178 lbs/day Annual: 5.3 tons/yr	Daily: 79 lbs/day Annual: 2.5 tons/yr
$PM_{2.5}$	Daily: 82 lbs/day Annual: 15 tons/yr	Daily: 110 lbs/day Annual: 3.1 tons/yr	Daily: 17 lbs/day Annual: 0.5 tons/yr	Daily: 8.8 lbs/day Annual: 0.3 tons/yr

This project will require the applicant to comply with Basic Construction Emission Control Practices (BCECPs). While these are generally applied during the construction phase of a new project, this project is requesting on-going construction-like activities. Therefore the BCECPs including control of fugitive dust required by Rule 403 and enforced by Sac Metro staff, water exposed surfaces two times daily, limit vehicle speed to 15 miles per hour and minimize idling time to five minutes will continue to be applied during the field instruction operations.

According to the results for the proposed operational activities, the project will not exceed the thresholds established for NO_x, ROG, and particulate matter during construction; project-related operational emissions are ***less than significant***.

IMPACT: MOBILE SOURCE CO EMISSIONS

The SMAQMD CEQA Guide provides a preliminary screening methodology to determine whether project related vehicle trips will result in CO emissions that contribute to an exceedance of the threshold of significance.

The SMAQMD presents the following questions:

The proposed project will result in a less-than-significant impact to air quality for local CO if:

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

Project intersections to be most affected by project related traffic include:

- Meiss Road/project entrance
- Meiss Road/Dillard Road
- Dillard Road/State Route 16

These three intersections do not currently operate at LOS E or F, and project-related traffic will not cause them to operate at LOS E or F. Therefore, project related mobile source CO concentrations do not exceed SMAQMD thresholds and ***will not be considered cumulatively considerable***.

Note that students participating in training will not stay on campus. Students will be transported from dormitories at the existing Rancho Murieta training facility via van daily (6–10 vans). Traffic volumes will be primarily attributed to the 20 faculty and administrative staff commuting to the training center. Typical administrative and faculty traffic volumes will be 20 one-way vehicle trips distributed over several hours Monday–Saturday, arriving between 6 and 8 am and leaving between 3:30 and 5 pm. Based on this trip generation, a traffic impact study will not be triggered based on the volume thresholds identified in the "County of Sacramento Traffic Impact Analysis Guidelines," because the project will generate fewer than 100 am or pm peak-hour vehicle trip-ends.

IMPACT: EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS

The only Toxic Air Containments (TAC) emitted from the project would be Diesel Particulate Matter (DPM). When evaluating whether a project has the potential to result in localized impacts, one must consider:

- The nature of the air pollutant emissions,
- The proximity between the emitting facility and sensitive receptors,
- The direction of prevailing winds, and
- Local topography.

PROXIMITY TO SENSITIVE RECEPTORS

The off-site sensitive receptor closest to the project site boundary would be 0.45 mile (or 2,376 feet) west of the site. This receptor would be at this minimum distance from the use of the diesel equipment for 5-year periods. Under baseline conditions, as described above, current field instruction activities are producing DPM emissions equal to or greater than the expected DPM emissions from future field instruction activities at a distance of approximately 4,000 feet from the closest receptor. At times, the proximity of DPM emissions to a sensitive receptor will be closer than under baseline conditions, leading to potentially higher DPM emission concentrations. However, DPM is highly

dispersive (e.g., decrease of 70% at 500 feet from the source) (Zhu et al. 2002), so even a distance of 2,376 feet from the source is still reasonably far away for a sensitive receptor. A majority of the time, mobile equipment operations will be in the same location as current field instruction or farther away from receptors resulting in lower DPM emission concentrations.

WIND DIRECTION

Wind is predominantly from the south-southwest. The receptor located closest to project activities (0.45 mile) is located to the west of these activities. Other nearby receptors are located to the west and east of the nearest project sources. Studies show that wind contributes to the distribution of DPM and diesel PM is highly dispersive (e.g., decrease of 70% at 500 feet from the source) (Zhu et al. 2002). Thus, winds are not expected to be a substantial beneficial contributing factor, rather than adverse.

LOCAL TOPOGRAPHY

The topography between sensitive receptors and DPM emissions includes rolling hills and trees, which block the line of sight between the receptors and source emissions. Thus, topography would obscure direct movement of DPM. Considering the dispersive properties of DPM and the distance and duration of activities that would occur nearest the closest off-site sensitive receptor, and current baseline DPM emissions, project-related TAC emissions are not anticipated to expose off-site sensitive receptors to a substantial increase in DPM emissions.

CONCLUSION

The proximity of mobile equipment and associated DPM emissions will vary over the life of the project based on the proximity of the mobile equipment to the closest receptors. At times, the proximity will be closer than current mobile equipment operations leading to potentially higher DPM emission concentrations. A majority of the time, mobile equipment operations will be in the same location as current field instruction or farther away from receptors resulting in lower DPM emission concentrations. In addition, the prevailing wind direction would typically direct DPM emissions away from the closest receptors. Therefore, the levels of health risk exposure to nearby sensitive receptors would be ***less than significant***.

HEALTH EFFECTS OF CRITERIA POLLUTANTS

The EPA and CARB have established AAQS at levels above which concentrations could be harmful to human health and welfare, with an adequate margin of safety. Further, California air districts, like the SMAQMD, have established emission-based thresholds that provide project-level estimates of criteria air pollutant quantities that air basins can accommodate without affecting the attainment dates for the AAQS. Accordingly, elevated levels of criteria air pollutants as a result of a project's emissions could cause adverse health effects associated with these pollutants. However, as discussed below, the health risks associated with exposure to criteria pollutants are evaluated on a regional level. As a result, the mass emissions significance thresholds used in CEQA air quality analysis are not necessarily indicative of any localized human health impact that a project may have (SCAQMD 2015; SJVAPCD 2015). Therefore,

even if the project were to exceed the mass regional emissions thresholds, this would not necessarily indicate that the project would cause or contribute to the exposure of sensitive receptors to ground-level concentrations in excess of health-protective levels.

In Sierra Club v. County of Fresno (Sierra Club) the Supreme Court held that CEQA requires environmental impact reports to either (i) make a "reasonable effort" to substantively connect the estimated amount of a given air pollutant a project will produce and the health effects associated with that pollutant, or (ii) explain why such an analysis is infeasible (6 Cal.5th at 1165-66). However, the Court also clarified that that CEQA "does not mandate" that EIRs include "an in-depth risk assessment" that provides "a detailed comprehensive analysis … to evaluate and predict the dispersion of hazardous substances in the environment and the potential for exposure of human populations and to assess and quantify both the individual and population wide health risks associated with those levels of exposure." Id. at 1665.

Here, correlating the project's criteria air pollutant to specific health impacts is not possible because there is no feasible or established scientific method to perform such analysis. This conclusion is supported by both the San Joaquin Valley Unified Air Pollution Control District (SJVAPCD) and the South Coast Air Quality Management District (SCAQMD) who have determined that this type of analysis is speculative and infeasible and there are no unique issues for the SMAQMD that would make this analysis invalid here.

As the SJVAPCD has explained, "[t]he health impact of a particular criteria pollutant is analyzed on a regional and not a facility level based on how close the area is to complying with (attaining) the (National Ambient Air Quality Standards [NAAQS]). Accordingly, while the type of individual facility/health impact analysis that the Court of Appeal has required is a customary practice for TACs, it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task" (SJVAPCD 2015).

Instead, the SJVAPCD has explained that it assesses a project's potential to exceed AAQS by evaluating the project's compliance with district thresholds of significance, which are measured in mass emissions (SJVAPCD 2015). As explained by SJVAPCD, its thresholds are based on factual, scientific data and have been set at a level that ensures that AAQS will not be exceeded, taking into consideration all cumulative emission sources (SJVAPCD 2015). The SJVAPCD explained that attempting to connect criteria pollutant emissions to localized health impacts will "not yield reliable information because currently available modeling tools are not well suited for this task" (SJVAPCD 2015). Available models are only equipped to model the impact of all emissions sources on an air basin-wide or regional basis, not on a project-level basis, and "[r]unning the photochemical grid model used for predicting ozone attainment with emissions solely from one project would thus not be likely to yield valid information given the relative scale involved" (SJVAPCD 2015).

This inability to "accurately ascertain local increases in concentration" of mass emissions and then to further link emissions with health effects is particularly true for O3

and its precursors NOx and ROG and VOC; O3 is not directly emitted into the air, but is instead formed as ozone precursors undergo complex chemical reactions through sunlight exposure (SJVAPCD 2015). Thus, it is not necessarily the tonnage of precursor pollutants that causes human health effects, but the concentration of resulting ozone or PM. But given the complex nature of this process, and the fact that O3 can be transported by wind over long distances, “a specific tonnage amount of NOx or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area” (SJVAPCD 2015). For this reason, the photochemical analysis for O3 is done on a regional scale and it is inappropriate to analyze O3 impacts at a local or project-level basis because a localized analysis would at most be speculative, and at worst be misleading. Speculative analysis is not required by CEQA (CEQA Guidelines Section 15145; Laurel Heights Improvement Association v. Regents of the University of California 1988).

The SJVAPCD also explained that the disconnect between the tonnage of precursor pollutants and the concentration of O3 or particulate matter formed in a particular area is especially important to understand in considering potential health effects because it is the concentration, not the tonnage, that causes health effects (SJVAPCD 2015). The SJVAPCD explained that even if a model were developed that could accurately assess local increases in concentrations of pollutants like O3 and particulates, it would still be “impossible, using today’s models, to correlate that increase in concentration to a specific health impact” (SJVAPCD 2015). The SJVAPCD stated that even a project with criteria pollutant emissions above its CEQA thresholds does not necessarily cause localized human health impacts as, even with relatively high levels of emissions, the SJVAPCD cannot determine “whether and to what extent emissions from an individual project directly impact human health in a particular area” (SJVAPCD 2015). The SJVAPCD explained that this is particularly true for development projects like the Project, where most of the criteria pollutants derive from mobile and area sources and not stationary sources.

The SCAQMD also, as amicus curiae in Sierra Club, made similar points, reiterating that “an agency should not be required to perform analyses that do not produce reliable or meaningful results” (SCAQMD 2015). SCAQMD agrees that it is very difficult to quantify health impacts with regard to O3, opining that the only possible means of successfully doing so is for a project so large that emissions would essentially amount to all regional increases (SCAQMD 2015). With regard to particulate matter, the SCAQMD noted that while the CARB has created a methodology to predict expected mortality from very large amounts of PM2.5 (i.e., 5,650 lbs/day of PM 2.5), the primary author of the methodology has reported that it is “not suited for small projects and may yield unreliable results due to various uncertainties.”

IMPACT: CREATE OBJECTIONABLE ODORS AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE

SMAQMD does not have a specific methodology to quantify odors from a proposed project. Rather, SMAQMD’s Guide anticipates a project by project analysis that reviews several factors including nature of operational activities and type of odors, metrological

conditions, and surrounding land uses. Understanding odor is subjective; thus, this analysis provides a qualitative analysis based on these three factors to assess potential odor from the proposed project.

DPM would be the only potential source of odor from the project. DPM is an existing emission source on the project site. Existing DPM emissions include field instruction activities located approximately 0.45 mile away from the closest sensitive receptor, located west of the closest existing odor source. The site has no history of odor complaints under existing conditions.

Activities on nearby properties include grazing cattle, growing crops, livestock production and animal husbandry, equestrian facilities, solar farming, and topsoil composting. These activities typically include use of off-road heavy-duty diesel equipment, including trucks, tractors, and stationary machinery. In addition, these land uses create different odors that may be considered an annoyance (e.g. manure).

The source of project-related odor from DPM would be from two locations: the campus area (related to campus construction and operation) and the field instruction area (see Plate PD-2). The off-site sensitive receptor closest to the project site boundary would be 0.45 mile west of the site (see a list of receptors in the previous impact analysis); thus, this receptor would be at this minimum distance from the use of the diesel equipment for 5-year periods. Studies show diesel PM is highly dispersive (e.g., decrease of 70% at 500 feet from the source) (Zhu et al. 2002), and the closest receptor would be a minimum approximately 2,376 feet away from the odor source. Thus, the distance of activities from potential receptors of odors makes it unlikely that the project would result in objectionable odors from DPM.

Wind is predominantly from the south-southwest. The receptor located closest to project activities (0.45 mile) is located to the west of these activities. Other nearby receptors are located to the west and east of the nearest project sources. Thus, winds are not expected to be a substantial adverse contributing factor to odor.

SMAQMD Rule 402 addresses emissions that cause nuisance and is in effect in order to deal with any odor complaints that may arise from the operation of a facility or project. Considering the dispersive properties of DPM, the distance of the closest activities, the prevailing wind direction, surrounding land uses that may generate additional odors, and the site's topography, project creation of odors from DPM would be ***less than significant***.

6 BIOLOGICAL RESOURCES

INTRODUCTION

This chapter identifies and analyzes impacts to biological resources based on the proposed project. The analysis focuses on impacts to the riparian and wetland habitats and the special status species whom rely on these habitats. Species covered in this document include a variety of special status birds, insects, plants, and amphibians, such as Swainson's hawk, vernal pool invertebrates, Valley elderberry longhorn beetle, and western spadefoot toad.

ENVIRONMENTAL SETTING

The project is located in eastern Sacramento County, south of the community of Rancho Murieta. The entire project site encompasses 1,500 acres of mine tailings, open grassland, riparian vegetation and wetland resources. In the center of the project site, approximately 90 acres have been "worked" by the project applicant for field instruction using a variety of equipment types. In that disturbed area, there are two ponds – one is a detention pond to capture stormwater runoff from the disturbed area and the other is a fresh water pond that supplies the water trucks used for dust suppression. The terrain is gently rolling with elevations ranging between 200 and 250 feet above sea level. Reference Plate BR-1 for location and current aerial photos.

There are three main access roads to the central portion of the project site. One leading west towards Apple Road, one leading north towards Meiss Road, and one leading east to the furthest northeastern corner of the property. All access roads are unpaved and only the road leading north is wide enough for two vehicles.

A notable feature throughout the project site is the remnant dredge tailings left from mining activities from the 1930s and 1940s. These tailings are large mounds generally in long rows, 10 -25 feet high. In the valleys of these rows, stormwater can accumulate and provide suitable environments for the growth of cottonwood dominated vegetation. This is quite evident on the site, with vegetation consisting of cottonwoods, elderberry shrubs and willows. Scattered throughout the project site within the grassland open spaces are native oaks, black walnut, eucalyptus, and pine trees.

In the areas in-between the dredge tailings there are seasonal wetlands and/or vernal pools, wetland swales and ephemeral drainages. These wetland resources provide suitable habitat for vernal pool invertebrates and/or plants.

All land surrounding the project is designated as agricultural, except lands to the west are smaller, 5 and 20 acre, parcels. Most of the land to the south of the project has been identified as Resource Conservation Areas on the General Plan Land Use Diagram and smaller areas to the north and west of the project site have been identified

as Resources Conservation Areas-Protected, generally along the Cosumnes River (Plate BR-2).

Plate BR-1: Project Location Map

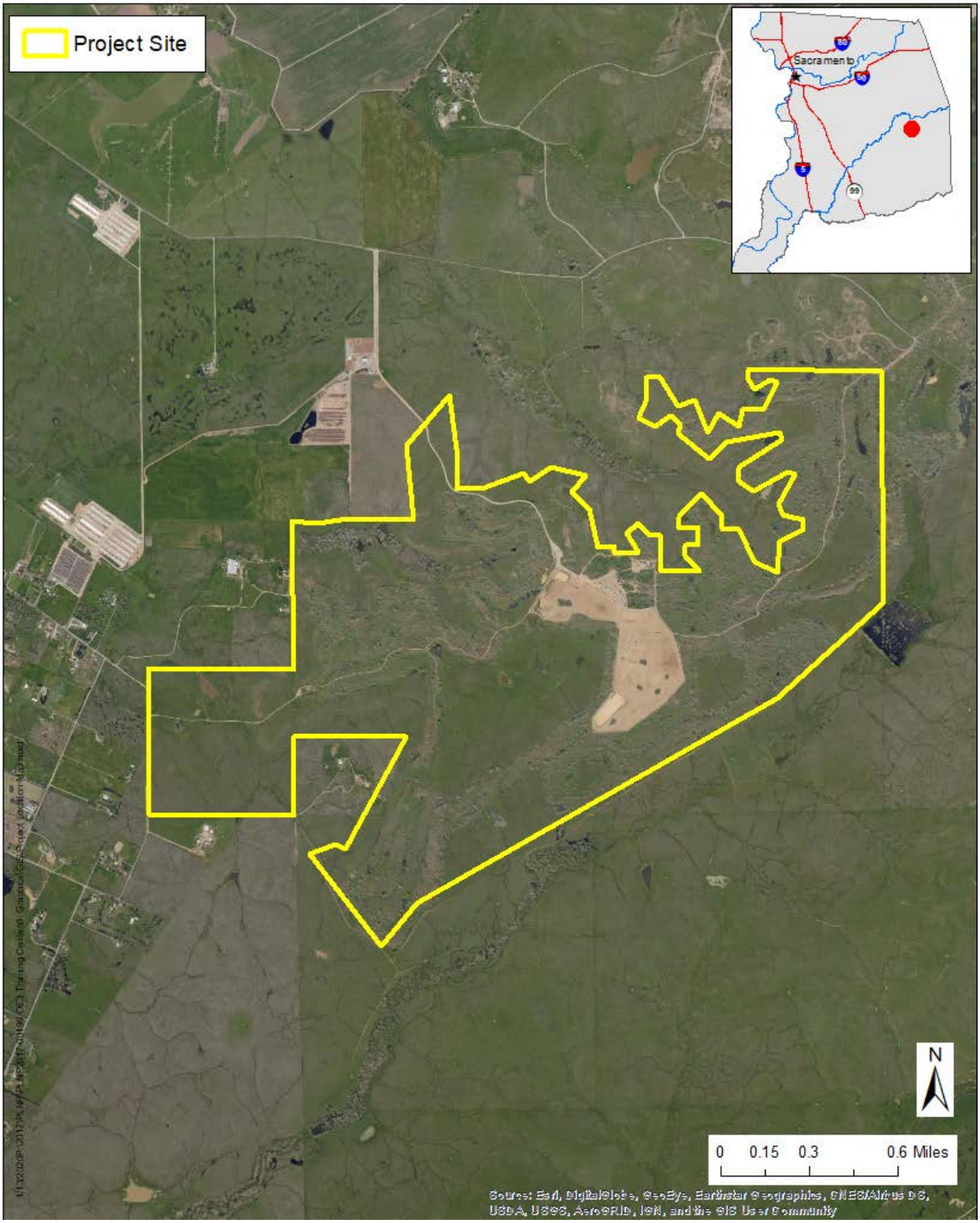
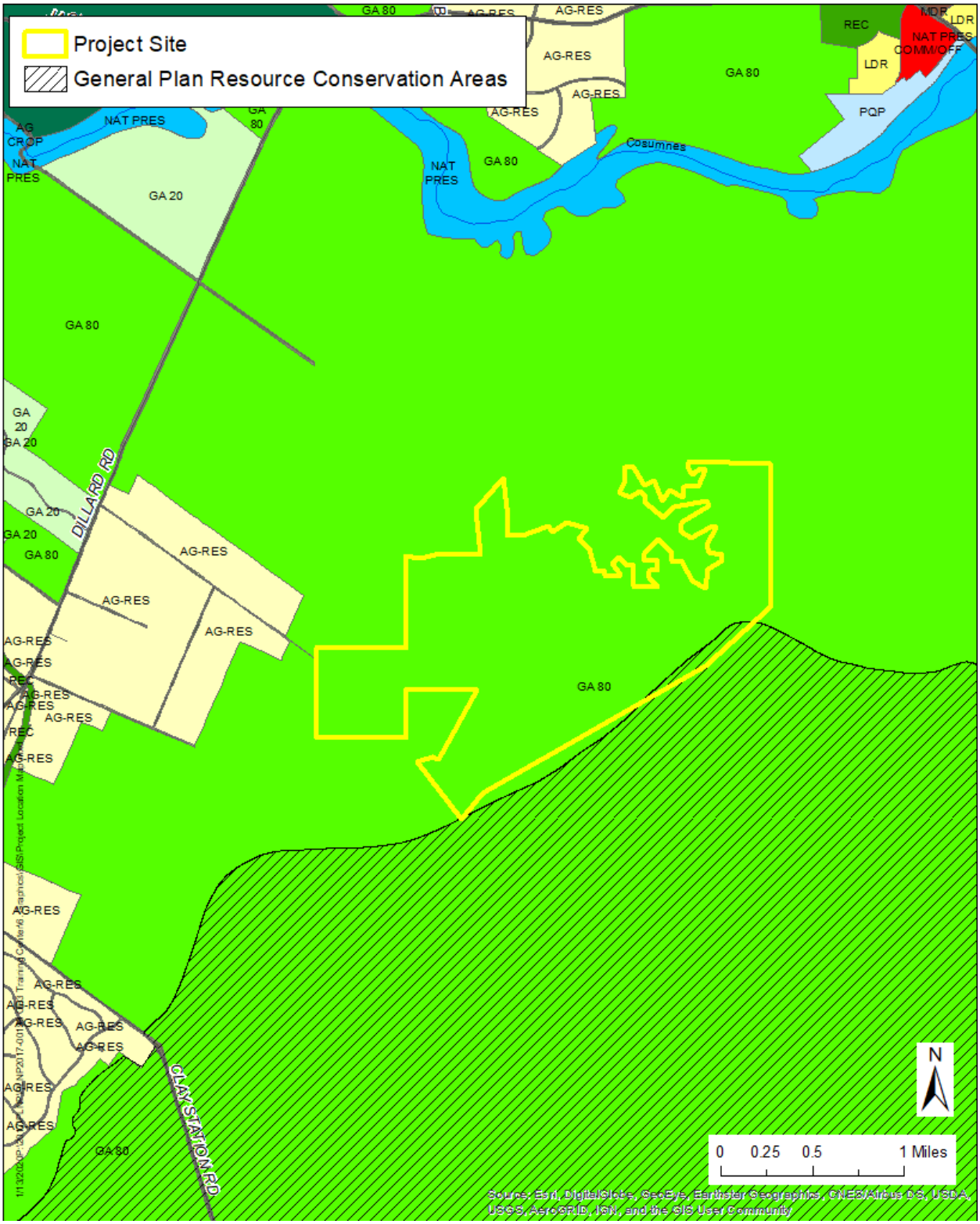


Plate BR-2: Surrounding Land Uses



WETLANDS

The County of Sacramento contains a number of wetland habitats, most of which are naturally occurring, although some were artificially created as mitigation for prior impacts.

Wetlands are defined by three basic criteria: wetland soil, wetland vegetation, and wetland hydrology. All must be present for the feature to be defined as a wetland subject to federal regulation (Clean Water Act Section 404). To that end, regulators have defined the term as follows:

> "Wetlands are those areas inundated or saturated by surface or ground water at a frequency and duration (hydrology) sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted (vegetation) for life in saturated soil conditions (soils)".

The term "wetlands" includes a diverse assortment of habitats such as perennial and seasonal freshwater marshes, vernal pools, and wetted swales. These wetland features share a number of physical characteristics, including frequent or seasonal inundation by water, soil saturated long enough to exclude organisms intolerant of anaerobic conditions, and plants that are adapted to wetted conditions.

SEASONAL WETLANDS

Seasonal wetlands are scattered throughout the County and most are associated with local drainage and adjacent floodplains. These wetlands typically begin to form after the first winter rains and fill as rain continues through the season. They drain primarily via drainage swales during high runoff, or via a combination of ground percolation and evaporation. By mid-summer or early fall these features will typically be dry. Depending on water depth and duration, seasonal wetlands can harbor federally listed invertebrates and provide habitat for a large number of species, including the listed western spadefoot toad. Seasonal wetlands primarily differ from vernal pools (see below) in their underlying soils. Seasonal wetland soils are typically more permeable than the soils associated with vernal pools.

SEASONAL SWALES

Depending on the underlying soils, swales share similar characteristics with either seasonal wetlands or vernal pools. Typically, swales are shallow, linear features that may serve as drainage features into or out of a seasonal wetland or vernal pool. Although common throughout much of the County's wetland landscapes, the wetland functions of a swale are less pronounced than either of the aforementioned wetlands. Shallowness and topography of swales limit the duration of ponded water, thus reducing the expression of typical wetland characteristics. Species present within swales are similar to those found in seasonal wetlands.

VERNAL POOLS

Vernal pools are small basins, depressions on the landscape that collect seasonal rains to support a specialized collection of plant and animal species. Typically, semi-impermeable soil underlies most vernal pools and restricts downward percolation of collected rain water. As a result, water slowly evaporates during the spring creating showy displays of tiny flowers blooming in concentric circles as the water recedes. Most plants found in vernal pools are endemic (found only in these habitats) and have adapted to survive partially submerged conditions. These conditions have kept the non-native grasses that comprise much of the County's grazing lands from invading or at least dominating the pools. Thus, vernal pools are small pockets of mostly native vegetation surrounded by mostly non-native grass species.

STOCK PONDS

In the County's rural lands ranchers have established water features, or stock ponds, typically by damming small drainages to form relatively deeper ponds which can hold water through much of the summer months. Stock ponds can also form in large, deep depressions that remain inundated for a longer duration than seasonal wetlands, swales or vernal pools. Because of the depth of the features and the extended period of duration, vegetation is often sparse and characterized by species adapted to these conditions. These ponds typically provide a deeper water habitat for some amphibian species.

INTERMITTENT STREAMS

Intermittent streams form in drainages where seasonal flow is sufficient to incise channel walls and scout channel bottoms. Ordinary high water mark indicators are presents, such as bed and bank, scouring and sediment sorting. Vegetation is generally sparse-to-non-existent.

FREMONT COTTONWOOD WOODLANDS

Fremont cottonwood (*Populus fremontii spp. fremontii*) woodlands generally occur in riparian areas where there are streams, rivers, or floodplains. For this particular site, there are no water features present in the areas of Fremont cottonwood woodlands. The habitat has likely formed due to the disruption of the soils from past dredging activities as it is only present along the dredge tailing rows. The tree canopy in this area is fairly open and composed of primarily of tall Fremont cottonwoods with other overstory species of blue and valley oaks. Understory species are scattered throughout and include blue elderberry, poison oak, and narrowleaf willow.

VALLEY GRASSLAND

Grassland habitat in Sacramento County is characterized by annual grasses and forbs, which are predominantly non-native species. Non-native annual grasses that dominate grasslands include wild oats (*Avena fatua*), soft chess (*Bromus hordeaceus*), ripgut brome (*B. diandrus*), red brome (*B. madritensis* ssp. *rubens*), wild barley (*Hordeum* spp.), and foxtail fescue (*Vulpia myuros*). Common forbs of this land cover type include broadleaf filaree (*Erodium botrys*), redstem filaree (*E. cicutarium*), turkey mullein

(*Eremocarpus setigerus*), true clovers (*Trifolium* spp.), bur clover (*Medicago polymorpha*), popcorn flower (*Plagiobothrys* spp.), and many others[1]. Purple needlegrass (*Stipa pulchra*) and Idaho fescue (*Festuca idahoensis*) are two perennial grasses that can be present in moist, lightly grazed, or relic native grassland areas. Vernal pools and seasonal wetlands are often present within the County's grassland habitats.

REGULATORY SETTING

FEDERAL

The two major federal laws regulating impacts to wetlands and wildlife species are the Clean Water Act (Section 404 and 401) and the Endangered Species Act (Section 7, 9, and 10). The U.S. Army Corps of Engineers (USACE) is responsible for administering the Clean Water Act (CWA), Section 404, with the U.S. Environmental Protection Agency serving in an oversight capacity. The U.S. Fish and Wildlife Service (USFWS) is responsible for administering the Endangered Species Act, Sections 7, 9, and 10. The state Regional Water Quality Control Board is the regulatory agency that enforces Section 401 of the CWA.

CLEAN WATER ACT SECTION 401 AND 404 PERMIT GUIDELINES

The USACE regulates discharge of dredged or fill material into waters of the United States under Section 404 of the CWA. Waters of the U.S. are generally defined as "navigable waters," which are defined as traditional navigable waters that are or were used for commerce, or may be used for interstate commerce; tributaries of navigable waters; and wetlands adjacent to navigable waters. "Discharge of fill material" is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. §328.2(f)]. The Solid Waste Agency of Northern Cook County (SWANCC) vs. United States Army Corps of Engineers decision made by the Supreme Court in 2001 altered the types of wetlands that can be regulated by Section 404. Isolated wetlands, that is, wetlands that are not hydrologically connected to other "navigable" surface waters (or their tributaries), are not considered to be subject to Federal jurisdiction. However the SWANCC decision only prohibits federal jurisdiction over isolated waters; State and local jurisdiction still applies.

The Central Valley Regional Water Quality Control Board (Regional Water Board) regulates wetlands pursuant to Section 401 of the CWA. Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any

[1] Kie, J. G. 2005. Annual grassland. In Mayer and Laudenslayer 1988.

activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Federal Endangered Species Act

Under the Federal Endangered Species Act (FESA) of 1973, the Secretary of the Interior and the Secretary of Commerce jointly have the authority to list a species as endangered or threatened. FESA defines "endangered" species as any species in danger of extinction throughout all or a significant portion of its range. A "threatened" species is any species that is likely to become an "endangered" species within the foreseeable future throughout all or a significant portion of its range. Additional special-status species include "candidate" species and "species of concern." "Candidate" species are those for which USFWS has enough information on file to propose listing as endangered or threatened. "Species of concern" are those for which listing is possibly appropriate but for which USFWS lacks sufficient information to support a listing proposal. A species that has been "delisted" is one whose population has met its recovery goal target and is no longer in jeopardy of extinction. Taking of federally listed species is prohibited under Section 9 of FESA. To "take" is defined by FESA (Section 2[19]) to mean "to harass, harm, pursue, hunt, shoot, would, kill, trap, capture, or collect, or attempt to engage in any such conduct."

All government agencies must review their actions and determine if a "may affect" situation occurs with respect to a federally listed or proposed species. If the agency makes a "may affect" determination, it is then required to formally consult with National Oceanic and Atmospheric Administration, Fisheries.

For federal agencies, the consultation is conducted under Section 7 of FESA. The agency submits a Biological Assessment to USFWS that evaluates the potential adverse effects to federally listed species. USFWS then prepares a Biological Opinion that addresses the requirements that must be followed to avoid, minimize, and compensate for impacts to federally listed species and their habitats.

For non-federal agencies or individuals (i.e. private applicants), the consultation is conducted under Section 10 of FESA. The agency or individual submits an incidental take[2] permit application to USFWS accompanied by a habitat conservation plan (HCP). The purpose of the habitat conservation planning process associated with the permit is to ensure there is adequate minimization and mitigation of the effects of the authorized incidental take. The purpose of the permit is to authorize the incidental take of a listed species, not to authorize the activities that result in take (USFWS 2005).

[2] Incidental take is take of listed fish or wildlife species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by a federal agency or applicant (50 CFR 402.2).

Further explanation is provided in the following notification, which was submitted to the County by USFWS for inclusion[3] into all environmental documents when threatened or endangered species may be adversely affected:

As a requirement of the Department of Interior, U.S. Fish and Wildlife Service, the following notification is provided to proponents of any Project that has the potential to adversely affect threatened or endangered species:

> "The applicant is hereby notified of additional conditions as stipulated by the U.S. Fish and Wildlife Service. Features of the applicant's Project may adversely affect federally listed threatened or endangered species. An applicant must go through one of two processes to obtain authorization to take federally listed species incidental to completing his or her Project. One of the processes is formal consultation. When the authorization or funding of a Federal agency is an aspect of a Project that may affect federally listed species, Section 7 of the Endangered Species Act requires the Federal agency to formally consult with the Service.
>
> Formal consultation is concluded when the Service issues a biological opinion to the Federal agency. The biological opinion includes terms and conditions to minimize the effect of take on listed species. The Federal agency must make the terms and conditions of the biological opinion into binding conditions of its own authorization to the Project applicant. An example of this process is when the U.S. Army Corps of Engineers consults with the Service prior to issuing a permit to fill jurisdictional waters under Section 404 of the Clean Water Act. The terms and conditions of the biological opinion become binding on the Project applicant through the Corps' 404 authorization. When no Federal funding or authorization is involved in a Project, an applicant must prepare a habitat conservation plan and obtain a permit directly from the Service in accordance with Section 10(a)(1)(B) of the Act. For additional information on these processes please contact the Endangered Species Division of the U.S. Fish and Wildlife Service's Sacramento Fish and Wildlife Office at (916) 414-6600."

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1916 established federal responsibilities for the protection of nearly all native species of birds, their eggs, and nests. Section 16 U.S.C. 703–712 of the Act states "unless and except as permitted by regulations, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill" a migratory bird. A migratory bird is any native species or family of birds that live, reproduce or migrate within or across

[3] As a condition of the USFWS Biological Opinion for the "Fazio Water" 101-514 water contract, the County of Sacramento has agreed to include Fish and Wildlife notification language in Initial Studies and EIRs when endangered and threatened species may be adversely affected.

international borders at some point during their annual life cycle. Currently, there are 1,093 migratory birds protected nationwide by the MBTA, of which 58 are legal to hunt.

STATE

The three most important state laws regulating wildlife species, streams, and wetlands are the California Endangered Species Act (Section 2081), Section 1600 of the Fish and Game Code, and the Porter-Cologne Water Quality Control Act. The first two are administered by the State Department of Fish and Wildlife (CDFW), and the latter is administered by the Regional Water Quality Control Board (Regional Water Board).

CALIFORNIA ENDANGERED SPECIES ACT (CESA)

The California Endangered Species Act (established in Fish and Game Code §2050) generally parallels the main provisions of the FESA and is administered by CDFW for most terrestrial species, with assistance from the National Oceanic and Atmospheric Administration Fisheries for most freshwater fishery species. The CESA prohibits the taking of state listed species except as otherwise provided by state law. Unlike the federal ESA, the CESA extends the take prohibitions to not only listed species but also for candidate species while CDFW reviews a listing petition it has accepted for consideration. "Take" is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Section 2081 of the CESA identifies the following criteria that must be met for CDFW to authorize the take of endangered, threatened or candidate species:

- The taking of a listed or candidate species can be minimized and fully mitigated.
- The take would not jeopardize the continued existence of the species.
- Authorization for take must be based on the best scientific material that is reasonably available, and that due consideration will be given to the species' ability to survive and reproduce.

CALIFORNIA FISH AND GAME CODE

ANIMALS AND PLANTS

Section 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Fish and Game Code or any regulation made pursuant thereto. Section 3503.5 make it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by the Fish and Game Code or any regulation adopted pursuant thereto. Sections 1908, 3511, 4700, 5050 state that Fully Protected plant and animals or parts thereof may not be taken or possessed at any time.

SURFACE WATERS

Fish and Game Code Section 1602 requires any person, state or local governmental agency, or public utility to notify CDFW before beginning 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. Fish and Game Code Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state.

Notification is generally required for any project that will take place in the vicinity of a river, stream, or lake. CDFW will determine whether a Lake or Streambed Alteration Agreement is required for the activity. An agreement will be required if the activity could substantially adversely affect an existing fish and wildlife resource. If an agreement is required, it will be prepared by CDFW in coordination with the applicant. The agreement will include measures, as necessary, to protect fish and wildlife resources while conducting the project.

Porter-Cologne Water Quality Control Act

This Act (State Water Code Section 13020) mandates that all the waters of the state be protected, that activities and factors affecting water quality be regulated to attain the highest water quality "within reason", and that the state be prepared to exercise its power and jurisdiction to protect water quality from degradation. Waters of the state are defined as any surface or groundwater within the boundaries of the state. The Regional Water Board issues permits, with varying conditions, to allow the discharge of dredge or fill material or a waiver of waste discharge into waters of the state.

Local

Sacramento County General Plan

The General Plan contains numerous goals, policies, concepts and strategies to protect and/or preserve biological resources. The following provides the goals and policies applicable to the proposed Project:

AG-17. The establishment of conservation easements combining preservation of agricultural uses, habitat values, and open space on the same property should be encouraged where feasible.

CO-25. Support the preservation, restoration, and creation of riparian corridors, wetlands and buffer zones.

CO-58. Ensure no net loss of wetlands, riparian woodlands, and oak woodlands.

CO-59. Ensure mitigation occurs for any loss of or modification to the following types of acreage and habitat function:

- vernal pools,
- wetlands,
- riparian,

- native vegetative habitat, and
- special status species habitat.

CO-60. Mitigation should be directed to lands identified on the Open Space Vision Diagram and associated component maps (please refer to the Open Space Element).

CO-61. Mitigation should be consistent with Sacramento County-adopted habitat conservation plans.

CO-62. Permanently protect land required as mitigation.

CO-64. Consistent with overall land use policies, the County shall support and facilitate the creation and biological enhancement of large natural preserves or wildlife refuges by other government entities or by private individuals or organizations.

CO-65. Create a network of preserves linked by wildlife corridors of sufficient size to facilitate the movement of species.

CO-66. Mitigation sites shall have a monitoring and management program including an adaptive management component including an established funding mechanism. The programs shall be consistent with Habitat Conservation Plans that have been adopted or are in draft format.

CO-67. Preserves and conservation areas should have an established funding mechanism, and where needed, an acquisition strategy for its operation and management in perpetuity. This includes existing preserves such as the American River Parkway, Dry Creek Parkway, Cosumnes River Preserve and other plans in progress for riparian areas like Laguna Creek.

CO-68. Preserves shall be planned and managed to the extent feasible so as to avoid conflicts with adjacent agricultural activities (Please also refer to the Agricultural Element).

CO-69. Avoid, to the extent possible, the placement of new major infrastructure through preserves unless located along disturbed areas, such as existing roadways.

CO-84. Ensure that vernal pool preserves are large enough to protect vernal pool ecosystems that provide intact watersheds and an adequate buffer, have sufficient number and extent of pools to support adequate species populations and a range of vernal pool types.

CO-138. Protect and preserve non-oak native trees along riparian areas if used by Swainson’s hawk, as well as landmark and native oak trees measuring a minimum of 6 inches in diameter or 10 inches aggregate for multi-trunk trees at 4.5 feet above ground.

CO-139. Native trees other than oaks, which cannot be protected through development, shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed.

OS-9. Open space easements obtained and offered as mitigation shall be dedicated to the County of Sacramento, an open space agency, or an organization designated by the County to protect and manage the open space. Fee title of land may be dedicated to the County, the open space agency, or organization provided it is acceptable to the appropriate department or agency (Please also refer to Section V of the Conservation Element for related policies).

Swainson's Hawk Impact Mitigation Fee Program Ordinance

The California Department of Fish and Wildlife requires that mitigation for foraging habitat be provided within the known foraging radius of a nesting Swainson's hawk. In 1997, in response to the need to mitigate for the loss of Swainson's hawk foraging habitat in Sacramento County, the Board of Supervisors adopted an ordinance that established a Swainson's Hawk Impact Mitigation Program (Chapter 16.130 of the Sacramento County Code). The Program has been amended several times; the latest amendment went into effect December 2009. By adopting the Program, the Board of Supervisors found that "the most effective means of mitigation for the loss of suitable Swainson's hawk foraging habitat is the direct preservation, in perpetuity, of equally suitable foraging habitat on an acre-per-acre basis based on the Project's determined acreage impact".

Under the Swainson's Hawk Impact Mitigation Program, only projects which have an impact of less than 40 acres are eligible to pay fees. Projects impacting 40 acres or more of foraging habitat must provide land acceptable to CDFW and the County. Land can be provided in fee title or through conservation easement. The Sacramento County Office of Planning and Environmental Review (PER) administers the Swainson's Hawk Impact Mitigation Program and more information on lands likely to be determined as acceptable replacement habitat can be found at their website http://www.per.saccounty.net/EnvironmentalDocuments/Pages/SwainsonsHawkOrdinance.aspx.

South Sacramento County Habitat Conservation Plan

The South Sacramento County Habitat Conservation Plan (SSHCP) is a regional approach to conserving species and addressing issues related to urban development, habitat conservation, open space preservation, and agricultural protection. The SSHCP, is a collaborative effort by the County and its partners: Rancho Cordova, Galt, the Sacramento Regional County Sanitation District, the Capital Southeast Connector Joint Powers Authority and the Sacramento County Water Agency. The intent of the SSHCP is to minimize regulatory hurdles and streamline the permitting process for projects that engage in development-related activities inside the urban development area or UDA. The UDA corresponds to land within the County's Urban Services Boundary (USB), and to land within the city limits of Rancho Cordova and Galt, and Galt's adopted sphere of influence. The SSHCP consolidates environmental efforts to

protect and enhance vernal pool habitat and other aquatic and upland habitats to provide ecologically viable conservation areas in south Sacramento County for numerous species. The intent of the SSHCP is to provide a mechanism by which the County and its partners could be authorized to issue permits that allow landowners to engage in specific development activities (covered activities) that could result in the incidental take of listed species (covered species). The County and its partners have adopted a developer-paid fee based on loss of habitat acreage, habitat type, and long-term management costs. Fees would fund the habitat preservation, restoration and management elements of the SSHCP.

SIGNIFICANCE CRITERIA

Standards for determining thresholds of significance were established based on the State CEQA Guidelines and professional standards. Impacts to biological resources were considered significant if the project would result in the following:

1. Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a special-status-species in local or regional regulatory guidance, plans, policies, or regulations or by CDFW or USFWS;

2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plan, policies, regulations, or by the California Department of Fish and Wildlife or U.S Fish and Wildlife Service.

3. Have a substantial adverse effect on protected State or federally protected wetlands or surface waters, as defined by the Army Corps of Engineers Wetland Delineation Manual (1987 ed.) and/or as defined by Sections 401 and 404 of the Clean Water Act (including, but not limited to, seeps, vernal pools, swales, drainages, and perennial waterways) through direct removal, filling, hydrological interruption, or other means;

4. 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;

5. Conflict with any local policies or ordinances protecting biological resources; or

6. Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or approved local, regional, or state habitat conservation plan.

METHODOLOGY

The methodologies used to determine significance rely on documents published by or endorsed by regulatory agencies. The applicable documents and methods are cited

and described in the applicable impact discussions below. In absence of such published documents, the analyses rely on the general definitions of significance. In addition, several biological reports were prepared for a portion of the proposed project. Information from the following reports is incorporated into the impact analysis and entire reports are available on-line at : https://planningdocuments.saccounty.net/ViewProjectDetails.aspx?ControlNum=PLNP2017-00199.

- Wetland Delineation prepared by WRA Environmental Consultants dated November 2019 (Appendix BR-1)
- Biological Resources Assessment prepared by WRA Environmental Consultants dated February 2018 (Appendix BR-2)
- Rare Plan Survey Report prepared by WRA Environmental Consultants dated May 2017 (Appendix BR-3)

IMPACTS AND ANALYSIS

The project consists of the construction of an education campus and expansion of the field instruction area. The improvement areas will generally take place in the central portion of the project site and will encompass the existing disturbed area. Impacts for the entire expansion footprint, 450 acres, and any additional impacts associated with access improvements will be analyzed in this chapter. The remaining portion of the project site to the southeast and to the west will remain in their current state. The project applicant intends to place the southeastern portion, referred to as the East Preservation Area, under a conservation easement to mitigate for project impacts (Plate BR-3). The remaining western portion, referred to as the West Preservation Area, of the property could serve as mitigation land for other projects pending agreement with permitting agencies and developing a management plan. The project applicant has indicated that this could be sought out in the future, but there are no such negotiations taking place currently. If this western portion is utilized as a mitigation site in the future and improvements are needed to enhance the habitat, a grading permit would be required from the County and CEQA review would occur at that time.

The overarching goals of General Plan Policies CO-64 and -65, OS-1 and -2 are to preserve large, high quality, contiguous pieces of land which support habitat for a large range of plant and animal species. Project design includes large areas of avoided open space that incorporates several types of wetland resources (vernal pools, seasonal drainages and associated upland) and species. Project design appears to meet the intent of the General Plan policies.

IMPACT: RIPARIAN HABITAT, SENSITIVE NATURAL COMMUNITIES, AND WETLANDS AND SURFACE WATERS

The project contains several habitat types including wetlands and waters of the U.S. A wetland delineation was conducted by WRA, Inc., in August 2016, and the report was updated in November 2019, after consultation with the USACE. The delineation

identifies a total of 68.90 acres potentially jurisdictional features within the project area (Plate BR-4). The delineation was verified by the USACE on November 22, 2019. There are no wetlands meeting the State wetland definition that are not also water of the U.S. The following table breaks down the types of waters present on the project site.

Table BR-1: Potential Jurisdictional Waters of the U.S. (acres)

Feature Type	Pre-Project Acreage	Impacted Acreage	Avoided Acreage
Wetlands			
Seasonal Wetland	39.35	3.08	36.27
Seasonal Swale	8.62	0	8.62
Vernal Pool	10.55	1.05	9.5
Other Waters			
Stock Pond	9.63	0.27	9.36
Intermittent Stream	0.75	0	0.75
Off-Site Access			
Vernal Swale	0.01		
Seasonal Wetland Ditch	0.03		
Total	68.9	4.40	64.50

Plate BR-3: Preservation Areas

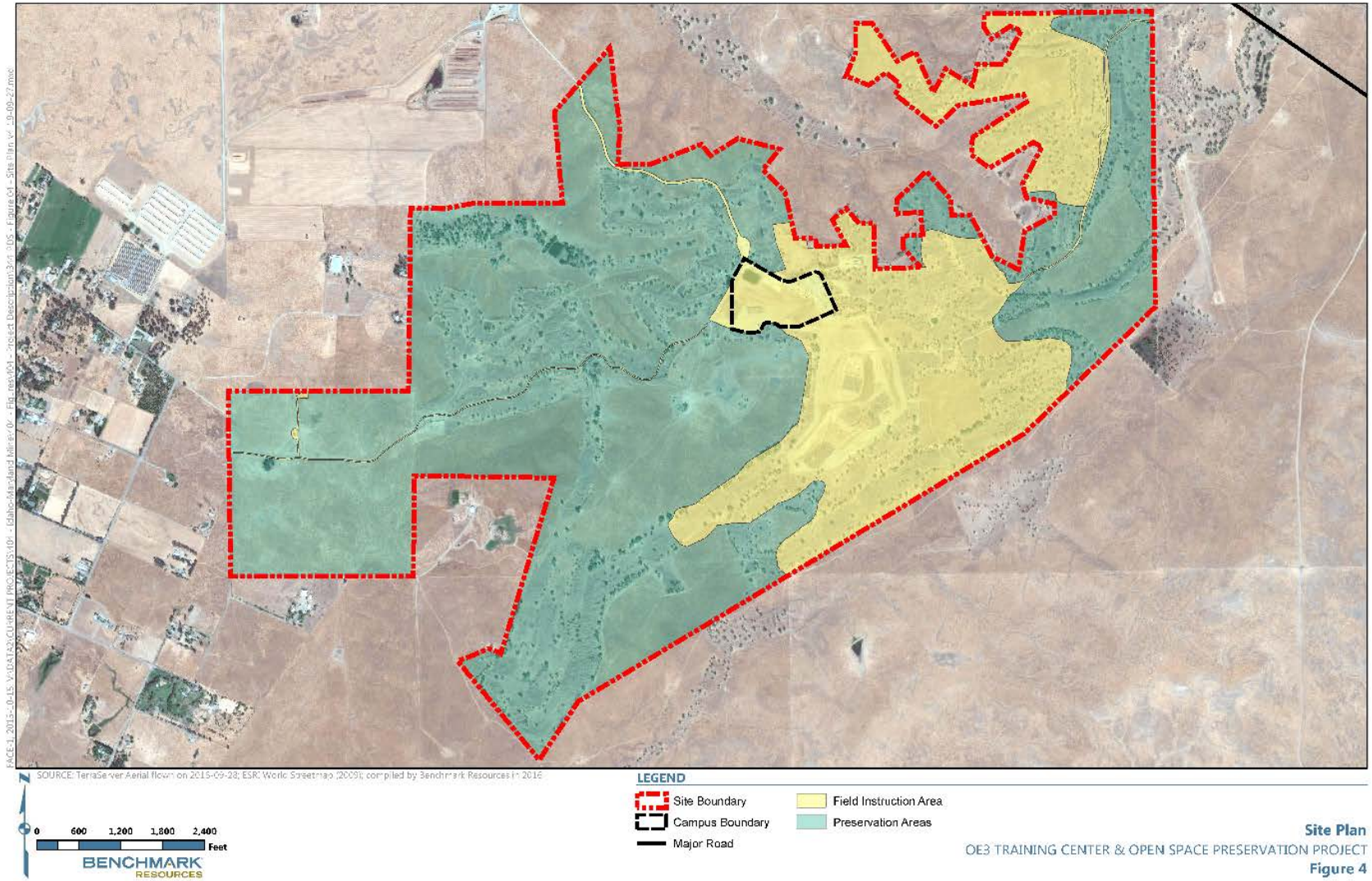
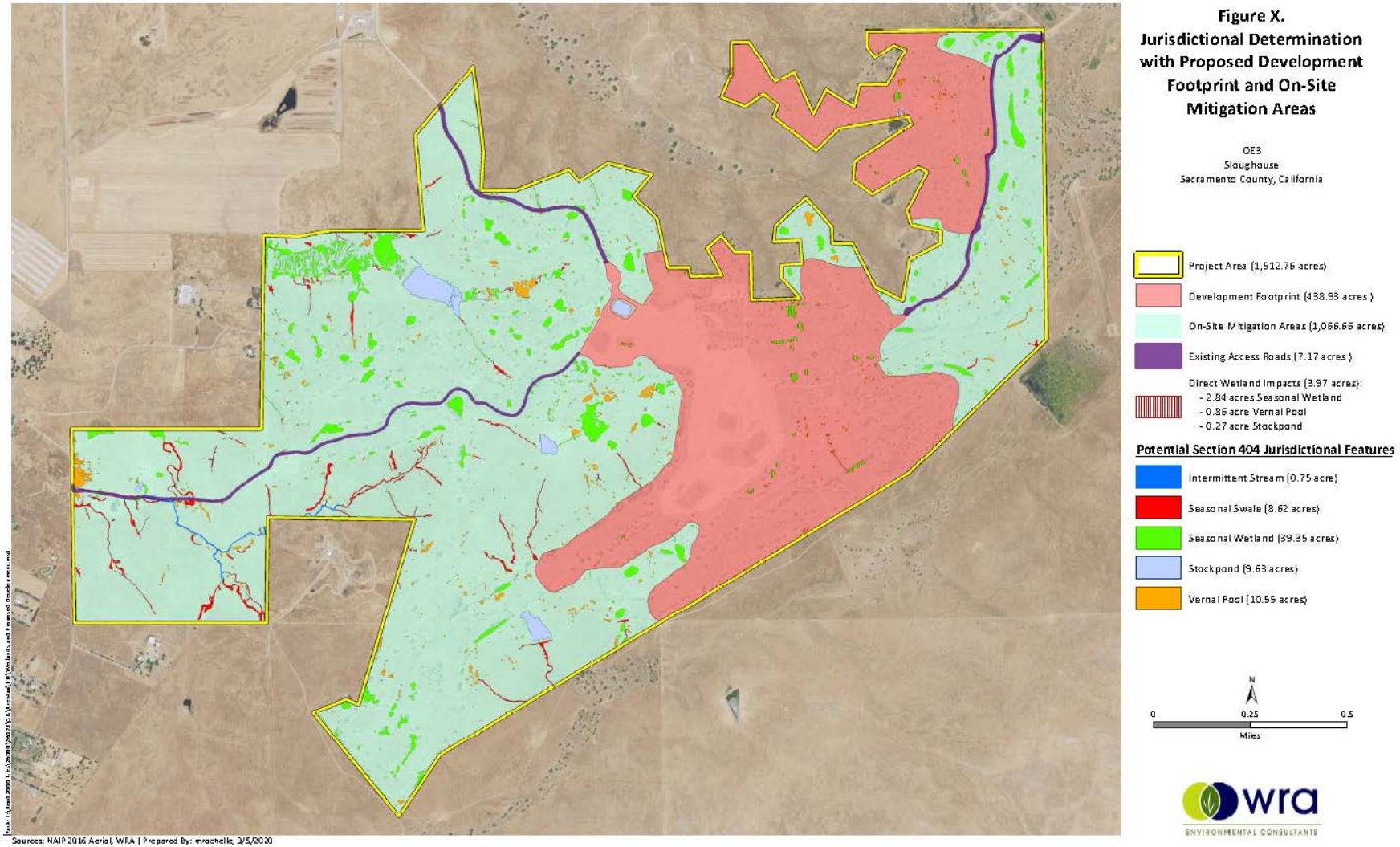


Plate BR-4: Wetland Delineation Map



There are two general types of impact to habitats: direct and indirect. An indirect impact occurs when activities near the wetland cause secondary effects, such as hydrologic changes which reduce the amount of water flowing to the wetland, or drift of pesticides and other pollutants into the wetland. Indirect Impacts are discussed in Chapter 9 hydrology and Water Quality. For wetlands which may contain special status species, the rule of thumb for total avoidance of both direct and indirect impacts requires that construction and other activities occur at least 250 feet from the wetland[4]. For surface waters that do not contain special status species, PER has established a buffer of 50 feet as a rule of thumb. Note that these rules may be supplanted by site-specific analyses of hydrologic and other conditions. A direct impact occurs when a wetland is destroyed by construction activities within the wetland margin; however, the programmatic consultation for vernal pool resources states that if any part of a vernal pool is destroyed, then the entire pool is directly affected.

As illustrated in the proposed plan, the proposed field instruction areas may come within 250 feet of seasonal wetland or vernal pool habitat in the proposed East and West Preservation Areas.

DIRECT IMPACTS

According to the proposed development as depicted in Plate BR-4 and as tabulated in Table BR-1, the project will directly impact approximately 4.40 acres of wetland resources within the Education campus and field training area, which is seven percent of the wetlands on the project site.

While the wetland delineation prepared for the project has been verified by the USACE, an application for a Section 404 individual permit for wetland loss has not been submitted. Thus, the precise amount of wetland area that will require mitigation has not been determined at this time.

According to USACE and State mitigation guidelines and County mitigation requirements, minimum mitigation requirements are 1:1 (no net loss). Based on the minimum requirements, the project applicant would need to mitigate for direct impacts of up to 4.40 acres of wetlands. It should be noted that species habitat mitigation (described later in this chapter) generally requires greater mitigation ratios. If wetland mitigation is pursued through purchasing credits at agency approved mitigation bank or through land dedication outside of the project area, suitable land is first sought within the same watershed that is disturbed, thereby preserving a portion of the micro-ecosystem of the watershed.

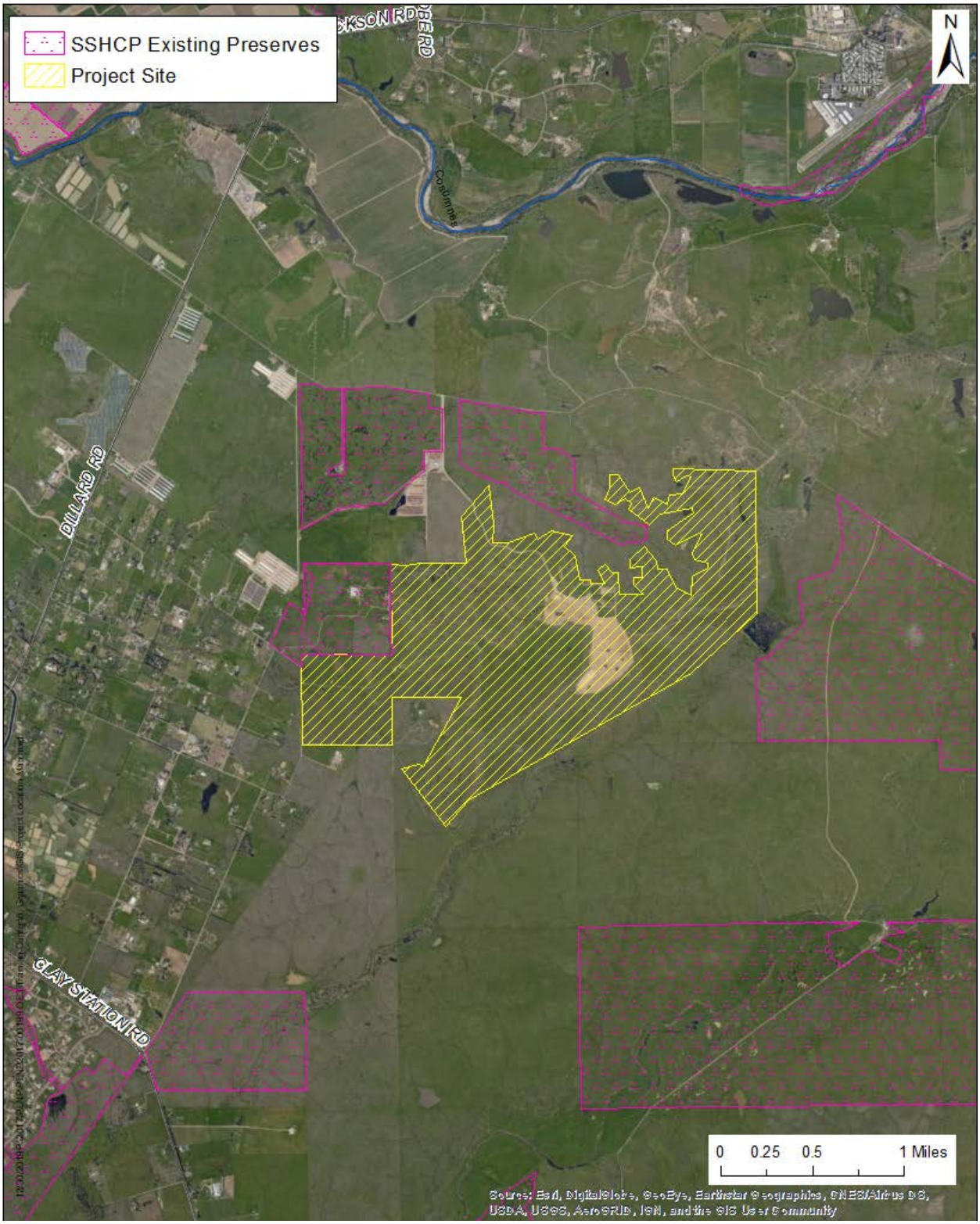
[4] Programmatic Formal Endangered Species Act Consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans Within the Jurisdiction of the Sacramento Field Office, California (February 28, 1996)

Conclusion

Prior to direct impacts to wetland features the project applicant will be required to obtain all required permits from the USACE, USFWS, CDFW, and the Regional Water Board. Based on the analysis herein, the County will require a minimum of 1:1 mitigation for direct wetland impacts – 4.40 acres.

Even though the project applicant is proposing to avoid a considerable number of vernal pools, swales and seasonal wetlands, impacts to wetland resources are significant without mitigation. Impacted wetlands will be mitigated through either in-lieu permitting replacement credits or permanent on-site preservation; therefore, impacts to wetlands are considered ***less than significant***.

Plate BR-5: Existing Preserves Surrounding the Project Site



MITIGATION MEASURES:

BR-1 In order to reduce impacts to wetland habitat the applicant shall comply with one or a combination of the following prior to every phase or rotation of the project:

a. Where a Section 404 Permit has been issued by the U.S. Army Corps of Engineers, or an application has been made to obtain a Section 404 Permit, the Mitigation and Management Plan required by that permit or proposed to satisfy the requirements of the USACE for granting a permit may be submitted for purposes of achieving a no net-loss of wetlands. The required Plan shall be submitted to the Sacramento County Environmental Coordinator, U.S. Army Corps of Engineers and U.S. Fish and Wildlife Service for approval prior to its implementation.

b. If regulatory permitting processes result in less than a 1:1 compensation ratio for loss of wetlands, the project applicant shall demonstrate that the wetlands which went unmitigated/uncompensated as a result of permitting have been mitigated through other means. Acceptable methods include payment into a mitigation bank or protection of off-site wetlands through the establishment of a permanent conservation easement, subject to the approval of the Environmental Coordinator.

IMPACT: SPECIAL STATUS SPECIES

A special status species is one which has been identified as having relative scarcity and/or declining populations. Special status species include those formally listed as threatened or endangered, those proposed for formal listing, candidate for federal listing, and those classified as species of special concern. Also included are those species considered to be "fully protected" by CDFW, those granted "special animal" status for tracking and monitoring purposes, and those plant species considered to be rare, threatened, or endangered in California by the California Native Plant Society (CNPS).

There are multiple status designations applied to animal and plant species; the relevant definitions are provided below[5]:

Endangered Species: Any species which is in danger of extinction throughout all or a significant portion of its range.

Threatened Species: Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

[5] Source: California and Federal Endangered Species Acts, http://www.dfg.ca.gov/wildlife/nongame/ssc/, http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/fully_pro.html, and http://www.cnps.org/cnps/rareplants/ranking.php

Species of Concern: Any species with declining population levels, limited ranges, and/or other factors that make them vulnerable to extinction and may ultimately qualify the species for threatened or endangered status.

Fully Protected: The classification of Fully Protected was California's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Most have subsequently been defined as endangered or threatened, but there are exceptions.

Special Animals: A general term that refers to all of the taxa that CDFW is interested in tracking, regardless of their legal or protection status. Though the species themselves have not declined to the extent that they are listed by one of the classifications noted above (endangered, etc), such species are closely associated with a habitat that is declining in California.

List 1B Plants: Plants that are rare throughout their range, and have declined significantly over the last century. The majority of plants on this list are endemic to California.

List 2 Plants: The same as List 1B plants, except that List 2 plants are common outside of California.

Relevant species for analysis were identified based on species information gathered from the U.S. Fish and Wildlife Service Sacramento office for federally listed species, from CDFW, CNPS, and from the Biological Resources Assessment prepared by WRA (Appendix BR-2). A CDFW California Natural Diversity Database (CNDDB 2019) search was also conducted. For the initial CNDDB search, the study area was all lands within ten miles of the project boundary, while the USFWS list was based on species present within the Sloughouse and Carbondale 7.5-minute United States Geological Survey quadrangle.

Table BR-2 reports the species identified in the species searches and the likelihood of occurrence based on habitat presence either on the site or in proximity of the site, survey results (if any), and nearby recorded species occurrences. Habitat proximity is based on published buffers established by a regulatory agency. For instance, guidance for the Swainson's hawk establishes a nesting buffer of ½-mile, and includes mitigation requirements for construction activities in that range. Note that some species are listed for loss of foraging habitat, while others may be listed for loss of breeding habitat. If the species is listed for loss of a particular habitat, it is so reported in Table BR-2 and the likelihood of occurrence will be based specifically on that habitat type. Likelihood of occurrence is rated as Not Present, Low Potential, Moderate Potential, High Potential, or Present, which are defined as:

Not Present: A survey was performed by a qualified biologist, and the species was not found or habitat is absent both on the site and within one mile of the site.

Low Potential: Absence cannot be definitively stated because no surveys were performed, but habitat is near-absent or marginal.

Moderate Potential: Habitat is present, but the species has not been observed within five miles of the site.

High Potential: Habitat is present and the species has been observed within five miles of the site.

Present: The CNDDB contains a recorded occurrence on the site, or the species was found during site-specific surveys.

Species which are not present or were found to have a low potential of occurrence are not discussed further in subsequent analysis sections.

Table BR-2: Special Status Species Matrix

Species	Status[1]	Habitat[1]	Potential for Occurrence
BIRDS			
Bald Eagle *Haliaeetus leucocephalus*	FSC	Bald eagles generally nest near coastlines, rivers, large lakes or streams that support an adequate food supply. Bald eagles are opportunistic feeders. Fish comprise much of their diet, but they also eat waterfowl, shorebirds/colonial waterbirds, small mammals, turtles, and carrion.	Not Present. There are no large impoundments or rivers within the Project site.
Bank Swallow *Riparia*	ST	Requires vertical banks and cliffs with fine-textured or sandy soils near streams, rivers, ponds, lakes, and the ocean for nesting. Feeds primarily over grassland, shrubland, savannah, and open riparian areas. Primarily listed for destruction of nesting habitat.	Not Present. There is no nesting habitat on the project site.
Burrowing Owl *Athene cunicularia hypugea*	FSC, CSC	Frequents open grasslands and shrublands with perches and burrows. Nests and roosts in old burrows of small mammals and rubble piles (Zeiner et. al., 1990).	Low Potential. During site surveys in 2016 (WRA 2018), no suitable ground burrows were observed. According to the CNDDB, a juvenile pair was observed ½ mile to the east of the project site in 2007. Suitable habitat could be present over the years.
Cooper's hawk *Accipiter cooperii*	SA	Frequents landscapes with wooded patches and groves, along with woodland edge habitats. Nests in riparian areas. Listed for nesting impacts.	Moderate Potential. Foraging habitat is present on the site and there are suitable nesting trees. Impacts are addressed in the "Nesting Raptors" section.

Species	Status[1]	Habitat[1]	Potential for Occurrence
Double-crested cormorant *Phalacrocorax auritus*	SA	Associated with estuaries, rivers, and oceans, the species is known to occur along major rivers in the Central Valley. A colonial nester, the species prefers cliffs, rugged slopes, or tall trees beside water. Range is restricted to 5 – 10 miles of the nesting area. Listed for the protection of nesting colonies.	Low Potential. The nearest recorded nesting colony is along the American River, over 13 miles to the north.
Ferruginous hawk *Buteo regalis*	SA	Frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys. Listed for preservation of wintering habitat.	Moderate Potential. The nearest recorded occurrence is just under three miles west of the site. The site contains foraging habitat for the species. Impacts are addressed in the "Nesting Raptors" section.
Golden Eagle *Aquila chrysaetos*	CFP	Found in rolling foothills with open grasslands, scattered trees, and cliff-walled canyons. Nests on cliffs and in large trees in open areas (Zeiner et. al., 1990).	Low Potential. Land surrounding the project site provides the rolling grasslands and wooded foothills suitable for foraging and nesting for this species. The project site does not contain cliffs for large tree snags for suitable nesting habitat. There are no recorded occurrences for this species within ten miles.
Grasshopper sparrow *Ammodramus savannarum*	SA	Occurs in dry, dense grasslands, especially those with a variety of grasses and tall forbs and scattered shrubs for singing perches. Builds nest of grasses and forbs in a slight depression in ground, hidden at base of an overhanging clump of grasses or forbs. Listed for loss of nesting habitat.	Moderate Potential. The nearest recorded occurrence is approximately 11 miles north of the site. The site contains potential foraging and nesting habitat.

Species	Status[1]	Habitat[1]	Potential for Occurrence
Great blue heron *Ardea herodias*	SA	Associated with estuaries, rivers, and oceans, the species is known to occur along major rivers in the Central Valley. A colonial nester, the species prefers tall trees beside water. The range is restricted to within 10 miles of the nesting area. Listed for the protection of nesting colonies.	Not Present (nesting). The site itself does not contain habitat, and the nearest recorded nesting colonies are two miles northeast of the project site, along the Cosumnes River.
Great egret *Ardea alba*	SA	Associated with estuaries, rivers, and oceans, the species is known to occur along major rivers in the Central Valley. A colonial nester, the species prefers cliffs, rugged slopes, or tall trees beside water. Listed for the protection of nesting colonies.	Not Present (nesting). The site itself does not contain habitat, and the nearest recorded nesting colonies are two miles northeast of the project site, along the Cosumnes River.
Loggerhead Shrike *Lanius ludovicianus*	CSC	Listed for loss of breeding habitat, the species breed mainly in shrublands or open woodlands with a fair amount of grass cover and areas of bare ground.	Low Potential. The site contains suitable nesting and foraging habitat. There are no recorded occurrences within Sacramento or Amador County.
Northern Harrier *Circus cyaneus*	FSC, CSC	Frequents meadows, grasslands, open rangelands, desert sinks, and fresh and saltwater emergent wetlands (Zeiner et. al., 1990). Nests on ground in shrubby vegetation, usually at marsh edge.	Moderate Potential. Nesting and foraging habitat is present on the site, and species has been observed in the local area. The site lacks the shrubby vegetation preferred for nesting.
Swainson's Hawk *Buteo swainsoni*	ST	Breeds in stands with few trees in juniper-sage flats, riparian areas, and oak savannah. Requires adjacent suitable foraging areas such as grasslands or grain fields supporting rodent populations (Zeiner et. al., 1990).	High Potential. Species recorded nesting 0.5 miles north of the site. There is suitable nesting and foraging habitat available on-site. On this basis, the species is highly likely to utilize the project site for foraging and nesting habitat.

Species	Status[1]	Habitat[1]	Potential for Occurrence
Tricolored Blackbird *Agelaius tricolor*	FSC, ST	The species is listed for breeding habitat. Known to nest near marshes in large (several hundred to several thousand birds) breeding colonies in habitat made up of blackberry thickets, bulrush (*Scrirpus* sp.) or cattails (*Typha* sp.) patches.	Not Present. The project site does not contain suitable nesting habitat for the species.
White-tailed Kite *Elanus leucurus*	CFP	Inhabit low-elevation grasslands, wetlands dominated by grasses, oak woodlands, and agricultural and riparian areas (Dunk 1995).	Moderate Potential. Foraging habitat is present on the project site and nesting habitat is available within 4 miles to the northwest.
MAMMALS			
American Badger *Taxidea taxus*	CSC	Occurs in a variety of habitats, including grasslands and oak woodlands with friable soils for digging (Zeiner et. al., 1990).	Low Potential. There is no suitable denning habitat on the project site. No prey (ground squirrels) or badger burrows observed during site surveys (WRA 2018).
Pallid Bat *Antrozous pallidus*	CSC	A wide variety of habitats is occupied, including grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings. Maternity colonies form in early April, and may have a dozen to 100 individuals.	Low Potential. The project does not contain typical rooting habitat (caves, crevices, mines, and buildings). It is unlikely that hollow tree crevices are large enough to support maternity colonies. The only sources of perennial water is associated with the on-site stormwater detention basin.

Species	Status[1]	Habitat[1]	Potential for Occurrence
Western Red Bat *Lasiurus blossevillii*	CSC	Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests. Feeds over a wide variety of habitats including grasslands, shrublands, open woodlands and forests, and croplands. Young are born from May through early July.	Low Potential. The project site may contain trees with hollow crevices that could support roosting habitat. Access to fresh water is minimal on or near the project site and limits the likelihood of the presence of the species.
Yuma Myotis Bat *Myotis yumanensis*	SA	Optimal habitats are open forests and woodlands with sources of water over which to feed, but it is found in a variety of habitats. The species roosts in buildings, mines, caves, or crevices. Young are born from May to mid-June.	Low Potential. The project does not contain typical rooting habitat (caves, crevices, mines, and buildings). The only sources of perennial water is associated with the on-site stormwater detention basin.
REPTILES			
Western Pond Turtle *Emys marmorata*	FSC, CSC	Occurs in perennial ponds, lakes, rivers, and streams with suitable basking habitat (mud banks, mats of floating vegetation, partially submerged logs) and submerged shelter (Zeiner et. al., 1990). Require some slack- or slow-water aquatic habitat. Nests upland, on unshaded south-facing slopes with friable soils that have a high percentage of clay or silt (Jennings and Hayes, 1994).	Not Present. The only perennial water source is associated with the water pond used for dust control. The pond does not provide enough suitable foraging habitat to support this species.

Species	Status[1]	Habitat[1]	Potential for Occurrence
Giant Garter Snake *Thamnophis gigas*	FT, ST	Endemic to valley floors of the Sacramento and San Joaquin Valleys. Prefers freshwater marsh and low gradient streams. Has adapted to rice agriculture, drainage channels, and irrigation ditches. Requires permanent water, emergent vegetation, and upland habitat for basking and cover (USFWS, 1999).	Not Present. The project site does not contain suitable waterways, nor is it within 200 feet of suitable waterways.
AMPHIBIANS			
California Tiger Salamander *Ambystoma californiense*	FT, ST	Endemic to annual grasslands and valley-foothill habitats in California. Adults spend most time in subterranean refugia, particularly in ground squirrel burrows (CDFG, 2005). Seasonal ponds or vernal pools are required for breeding.	Moderate Potential. There are larger, deeper vernal pools/seasonal wetlands on the project site that may provide suitable breeding habitat. The nearest recorded occurrences are 4 miles to the south and east of the project site.
California Red-legged Frog *Rana draytonii*	FT, CSC	Adults prefer dense, shrubby or emergent riparian vegetation near deep (at least two feet), still, or slow-moving water. The species aestivate in upland burrows and in leaf litter. (Jennings and Hayes 1994)	Not Present. The nearest confirmed, documented breeding population is located approximately 30 miles northeast of the Project near Pollock Pines in El Dorado County (CNDDB occurrence 586). There are no occurrences documented in Sacramento County, and the species is considered extirpated in the Central Valley (USFWS 2002).
Western Spadefoot Toad *Scaphiopus (Spea) hammondii*	FSC, CSC	Occurs primarily in grasslands but occasionally populates valley-foothill hardwood woodlands (Zeiner et. Al., 1990). Almost entirely terrestrial, but requires temporary rain pools that lack predators (fish, bullfrogs, crayfish) for breeding. Also needs burrows for refuge.	High Potential. Populations of western spadefoot toad have been documented within 3.5 miles south of the project site. Appropriate breeding and aestivation habitat is present throughout the project site.
FISH			

Species	Status[1]	Habitat[1]	Potential for Occurrence
Delta Smelt *Hypomesus transpacificus*	FT, CE	The Delta smelt is a small, slender-bodied fish with a typical adult size of two to three inches that is found only in the Sacramento-San Joaquin Estuary. This species occurs in the Sacramento River as far upstream as the confluence with the American River. Delta smelt may also be found in the Cosumnes River and San Joaquin River.	Not Present. The Project has no access to a permanent water course inhabited by Delta smelt.
Central Valley Steelhead *Oncorhynchus mykiss*	FT	Most of Sacramento County is within the distinct population segment area for this species. Critical habitat has been designated within Sacramento County on the Sacramento River, American River, Mokelumne River, and Dry Creek (both north and south creeks). Spawning has been documented on the Cosumnes River. (NMFS 2009)	Not Present. The Project has no access to a permanent water course inhabited by steelhead.
Central Valley Spring and Winter-run Chinook Salmon *Oncorhynchus tshawytscha*	FT, FE	Distribution occurs throughout the Sacramento River and through a portion of the American River, but the distribution maps do not include the Cosumnes River as habitat. (NMFS 2009)	Not Present. The project has no access to a permanent water course inhabited by salmon.
INVERTEBRATES			
California Linderiella *Linderiella occidentalis*	FSC	A fairy shrimp which most often occupies pools that are vegetated and contain clear water. Not uncommon to observe the species in mud-bottomed pools with slightly turbid water. (Eriksen and Belk, 1999).	Present. The species was observed during surveys in 2006. The vernal pools and seasonal wetlands on the project site provide suitable habitat.

Species	Status[1]	Habitat[1]	Potential for Occurrence
Ricksecker's Water Scavenger Beetle *Hydrochara rickseckeri*	FSC	The Ricksecker's water scavenger beetle is an aquatic beetle that lives in weedy, shallow, open water, associated fresh water seeps, springs, farm ponds, vernal pools, and slow moving stream habitats. The beetle is known to occur with other vernal shrimp species.	Low Potential. The nearest recorded occurrence approximately 9 mile northwest in Mather Field. Vernal pools, seasonal wetlands, seasonal wetland swales within the project site provide suitable habitat.
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*	FT	Associated with mature elderberry (*Sambucus* spp.) trees found in riparian forests in the Central Valley (USFWS, 2003a).	High Potential. Elderberry host plant is present on the project site.
Midvalley Fairy Shrimp *Branchinecta mesovallensiss*	FSC	Inhabit shallow vernal pools, vernal swales, and various artificial ephemeral wetland habitats in the Sacramento, Solano, Contra Costa, San Joaquin, Madera, Merced, and Fresno Counties (USFWS, 2003a).	Present. The species was observed during surveys in 2006. Vernal pools, seasonal wetlands, seasonal wetland swales within the project site provide suitable habitat.
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	FT	Inhabit alkaline pools, ephemeral drainages, rock outcrop pools, ditches, stream oxbows, stockponds, vernal pools, vernal swales, and other seasonal wetlands. Also found in basalt flow depression pools in unplowed grasslands (Eriksen and Belk, 1999).	Present. The species was observed in 2006 during surveys. Vernal pools, seasonal wetlands, seasonal wetland swales within the project site provide suitable habitat. The western portion of the project site is within critical habitat established for this species.
Vernal Pool Tadpole Shrimp *Lepidurus packardi*	FE	Inhabits small to large vernal pools containing clear to highly turbid water (USFWS, 2003a).	High Potential. The nearest recorded occurrences are within a half mile to the north and south of the project. Vernal pools, seasonal wetlands, seasonal wetland swales within the project site provide suitable habitat. The western portion of the project site is within critical habitat established for this species.

Species	Status[1]	Habitat[1]	Potential for Occurrence
Conservancy Fairy Shrimp *Branchinecta conservatio*	FE	Large, cool vernal pools.	Not Present. Study area occurs outside of currently known range of species.
PLANTS			
Dwarf downingia *Downingia pusilla*	List 2	Valley and foothill grassland (mesic); vernal pools, seasonal wetlands, and wetland swales.(blooms March – May)	Moderate Potential. Suitable habitat is present on the project site.
Boggs Lake Hedge-Hyssop *Gratiola heterosepala*	SE, List 1B	Marshes and swamps, vernal pools/clay; elevation 30 – 7,790ft (blooms Apr. – Aug.)	Low Potential. Suitable habitat present on the project site. Nearest occurrence is approximately 5 miles west of the project site.
Ione Buckwheat *Eriogonum apricum*	FE, SE List 1B	Chaparral with Ione soils; elevation 200 – 480ft. (blooms Jul.-Oct.)	Not present. Species not observed by WRA in 2016 and the project area lacks chaparral habitat and Ione soils.
Ione Manzanita *Arctostaphylos myrtifolia*	FT, List 1B	Chaparral, cismontane woodland/acidic Ione soil, clay or sandy; elevation 200 – 1,900 ft (blooms Nov.-Mar.)	Not Present. Species not observed by WRA in 2016 and the project area lacks chaparral woodland habitats and Ione soils.
Ahart's Dwarf Rush *Juncus leiospermus var. ahartii*	List 1B	Valley and foothill grassland/mesic; elevation 100 – 330ft (blooms Mar. – May)	Moderate Potential. The vernal pools, seasonal wetlands and seasonal swales on-site provide suitable habitat for this species. The nearest occurrence listed in the CNDDB is approximately 7 miles to the northwest.
Legenere *Legenere limosa*	List 1B	Vernal pools; elevation 0 – 2,900ft (blooms Apr. – Jun.)	Present. Species identified on-site by CNDDB and confirmed during site surveys in 2016 (WRA 2018). The vernal pools, seasonal wetlands, seasonal wetland swales, drainages, ditches, and stock pond represent suitable habitat.

Species	Status[1]	Habitat[1]	Potential for Occurrence
Pincushion Navarretia *Navarretia myersii*	List 1B	Vernal pools; elevation 65 – 1,100ft (blooms May)	High Potential. The vernal pools, seasonal wetlands and seasonal swales on-site provide suitable habitat for this species. The nearest occurrence is ½ mile to the east.
Slender Orcutt Grass *Orcuttia tenuis*	FT, SE List 1B	Vernal pools; elevation 115 – 5,775ft (blooms May – Oct.)	Moderate Potential. The vernal pools, seasonal wetlands and seasonal swales on-site provide suitable habitat for this species. The nearest listed occurrence in the CNDDB is 7.5 miles southwest of the Project site.
Sacramento Orcutt Grass *Orcuttia viscida*	FE, SE, List 1B	Vernal pools; elevation 100 – 330ft (blooms Apr. – Jul.)	Moderate Potential. The nearest recorded occurrence is over 5 miles from Project site. The vernal pools, seasonal wetlands and seasonal swales on-site provide suitable habitat for this species.
Sanford's Arrowhead *Sagittaria sanfordii*	List 1B	Marshes and swamps; elevation 0 – 2,000ft (blooms May – Oct.)	Present. Species identified on-site by CNDDB and confirmed during site surveys in 2016 (WRA 2018). The vernal pools, seasonal wetlands and seasonal swales on-site may provide marginal habitat for this species.

Source: California Dept. of Fish and Wildlife Natural Diversity Data Base (2019) and the U.S. Fish and Wildlife Service Species List for the Sloughouse and Carbondale U.S.G.S. 7.5-minute quad.

1. Listing status sources and some habitat description sources (life history accounts) are:

California Species: http://www.dfg.ca.gov/wildlife/nongame/list.html

Federal Species: http://www.fws.gov/sacramento/ES_Species/Accounts/Home/es_species.htm and http://www.fws.gov/sacramento/y_old_site/es/spp_concern.htm

California Native Plant Society: http://www.rareplants.cnps.org/

FE = Federal Endangered; FT = Federal Threatened; FC = Federal Candidate, FSC= Federal Species of Concern

SE = State of California Endangered; ST = State of California Threatened; CSC = State of California Species of Special Concern; CFP = State of California Fully Protected; SA = Special Animal

List 1B = California Native Plant Society Endangered, Threatened, or Rare in California

List 2 = California Native Plant Society Endangered, Threatened, or Rare in California but more common elsewhere

BIRDS

Based on the species table and types of habitat present on or near the project site, the following special status avian species have been identified as having potential to occur on or near the project site: burrowing owl, Cooper's hawk, ferruginous hawk, grasshopper sparrow, northern harrier, Swainson's hawk, and white-tailed kite. The section also addresses nesting raptors and migratory birds in general, which are afforded minimum protections pursuant to the California Fish and Game Code or the MBTA regardless of status.

SWAINSON'S HAWK

The Swainson's hawk (*Buteo swainsoni*) is listed as a threatened species by the State of California and is a candidate for federal listing as threatened or endangered. It is a migratory raptor typically nesting in or near valley floor riparian habitats during spring and summer months. Swainson's hawks were once common throughout the state, but various habitat changes, including the loss of nesting habitat (trees) and the loss of foraging habitat through the conversion of native Central Valley grasslands to certain incompatible agricultural and urban uses has caused an estimated 90% decline in their population.

Swainson's hawks feed primarily upon small mammals, birds, and insects. Their typical foraging habitat includes native grasslands, alfalfa and other hay crops that provide suitable habitat for small mammals. Certain other row crops and open habitats also provide some foraging habitat. The availability of productive foraging habitat near a Swainson's hawk's nest site is a critical requirement for nesting and fledgling success. In central California, about 85% of Swainson's hawk nests are within riparian forest or remnant riparian trees. CEQA analysis of impacts to Swainson's hawks consists of separate analyses of impacts to nesting habitat and foraging habitat.

The CEQA analysis provides a means by which to ascertain impacts to the Swainson's hawk. When the analysis identifies impacts, mitigation measures are established that will reduce impacts to the species to a less than significant level. Project proponents are cautioned that the mitigation measures are designed to reduce impacts and do not constitute an incidental take permit under the California Endangered Species Act (CESA). Anyone who directly or incidentally takes a Swainson's hawk, even when in compliance with mitigation measures established pursuant to CEQA, may violate the California Endangered Species Act.

NESTING HABITAT

For determining impacts to and establishing mitigation for nesting Swainson's hawks in Sacramento County, CDFW recommends implementing the measures set forth in the CDFW Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (November 1, 1994). These state that no intensive new disturbances, such as heavy equipment operation associated with construction, should be initiated within ¼ mile of an active Swainson's hawk nest in an urban setting or within ½ mile in a rural setting between March 1 and September 15. In 2000, additional guidance for the timing and methodology for surveys was developed by

the Swainson's Hawk Technical Advisory Committee. The guidance suggests additional surveys and specific timing of surveys to increase the probability of accurately identifying nest trees and/or active nests.

The project area is within ½ mile of recorded nesting sites. The project site provides nesting habitat for the hawk and expanded use of the site would result in a potentially significant impact to nesting Swainson's hawk. The project will rotate the field instruction area every five years. During the initial rotation, trees located within the disturbance area will be removed. These trees will need to be surveyed prior to removal to ensure no nesting hawks are impacted. Further, nesting hawks within 200 yards of the field instruction area could be impacted by the movement of heavy equipment.

Upon completion of the initial field instruction rotation cycle, 20 years will have passed and there is a lower potential of trees propagating in these areas that could support nesting hawks. However, mitigation is included to require preconstruction surveys of trees proposed to be removed that are large enough to support nesting hawks during subsequent rotation cycles. Due to the ongoing heavy equipment operation, nesting hawks within ½ mile would not be impacted by school operation and would be a standard nuisance after 20 years.

Preconstruction surveys will be required to determine if there are nesting Swainson's hawks on or within ½ mile of the project site. The purpose of the survey requirement is to ensure that construction activities do not agitate nesting hawks, potentially resulting in nest abandonment or other harm to nesting success. If Swainson's hawk nests are found, the applicant is required to contact CDFW to determine what measures need to be implemented in order to ensure that nesting hawks remain undisturbed. The measures selected will depend on many variables, including the distance of activities from the nest, the types of activities, and whether the landform between the nest and activities provides any kind of natural screening. Measures may include, but are not limited to, the following :

If active nests are identified within the survey area, a 0.25 mile (1,320-foot) buffer shall be established around the active nest in accordance with CDFW guidelines (CDFG 1994). No ground disturbance or other activities with potential to affect the nest shall occur within that buffer until the young have fledged or the nest becomes inactive. The buffer size may be reduced if recommended by a qualified biologist and approved by CDFW. If an active nest tree (a tree with a documented Swainson's hawk nest within the preceding five years) is identified within the Project Area and must be removed, authorization for removal of the tree shall be obtained from CDFW.

According to the 2000 Guidance for Survey Timing and Methodology for Swainson's Hawk and the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (November 1, 1994), the mitigation described above will ensure that impacts to nesting Swainson's hawks will be ***less than significant***.

FORAGING HABITAT

Swainson's hawks are known to forage up to 18 miles from their nest site; however, that is the extreme range of one individual bird's daily movement. It is more common for a Swainson's hawk to forage within 10 miles of its nest site. Therefore it is generally accepted and CDFW recommends evaluating projects for foraging habitat impacts when they are within 10 miles of a known nest site.

Statewide, CDFW recommends implementing the measures set forth in the CDFW Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California (November 1, 1994) for determining impacts to Swainson's hawk foraging habitat unless local jurisdictions develop an individualized methodology designed specifically for their location. Sacramento County has developed such a methodology and received confirmation from CDFW in May of 2006 that the methodology is a better fit for unincorporated Sacramento County and should replace the statewide, generalized methodology for determining impacts to foraging habitat.

Swainson's hawk foraging habitat value is greater in large expansive open space and agricultural areas than in areas which have been fragmented by agricultural-residential or urban development. The methodology for unincorporated Sacramento County is based on the concept that impacts to Swainson's hawk foraging habitat occur as properties develop to increasingly more intensive uses on smaller minimum parcel sizes. Therefore, the methodology relies mainly on the minimum parcel size allowed by zoning to determine habitat value. For the purpose of the methodology, properties with zoning of AG-40 and larger are assumed to maintain 100% of their foraging habitat value and properties with AR-5 zoning and smaller are assumed to have lost all foraging habitat value. Table BR-3 below illustrates the continuum between AG-40 and AR-5 that represents the partial loss of habitat value that occurs with fragmentation of large agricultural land holdings. The large, 50% loss of habitat value between AG-20 and AR-10 is due to the change in land use from general agriculture to agricultural-residential. The methodology does allow case-by-case analysis for projects with unique characteristics, such as the proposed project.

Table BR-3: Swainson's Hawk Foraging Habitat Values

Zoning Category	Habitat Value Remaining
AG-40 and above (e.g., AG-80, 160 etc.)	100%
AG-20	75%
AR-10	25%
AR-5 and smaller (e.g., AR-2, 1 or RD-5, 7, 10, 15, 20 etc.)	0%

CONCLUSION

The project area is within ½ mile of a recorded nesting site. The project site provides foraging habitat for the hawk and development of the site would result in a potentially significant loss of that habitat. Although the project is not requesting a rezone, the project is requesting a Use Permit to expand the area used for a private training school

and should be evaluated given the unique characteristics of the project. The proposed expansion area is within land that contains marginal foraging habitat (mine tailings reduce the habitat value). Thus, mitigation for impacts to Swainson's hawk foraging habitat must be determined.

The permanent conversion of land for the new education campus (25 acres) is located in an area that has been disturbed for mining and more recently field training activities. This land would normally support foraging habitat for Swainson's hawk. Campus construction will result in the permanent conversion of foraging habitat and will need to be mitigated at a 1:1 ratio.

The project will expand the field training area from approximately 90 acres to 425 acres, rotating to a new 80-acre area every five years (approximately), so that effectively, there is only 80 acres disturbed at one time. The proposed rotating disturbed area is considered the baseline condition and is not included in the impacted acreage.

In total, the project will require 25 acres of mitigation to compensate for the loss of Swainson's hawk foraging habitat. This can be done by utilizing the County's Swainson's Hawk Impact Mitigation Program detailed below, or by implementing a mitigation plan acceptable to CDFW. Mitigation measures that compensate for the loss of Swainson's hawk foraging habitat will reduce singular and cumulative impacts to ***less than significant*** levels.

SWAINSON'S HAWK MITIGATION PROGRAM

In 1997, in response to the need to mitigate for the loss of Swainson's hawk foraging habitat in Sacramento County, the Board of Supervisors adopted an ordinance that established a Swainson's Hawk Impact Mitigation Program (Chapter 16.130 of the Sacramento County Code). The Program has been amended several times; the latest amendment went into effect in December of 2009.

By adopting the Program, the Board of Supervisors found that "the most effective means of mitigation for the loss of suitable Swainson's hawk foraging habitat is the direct preservation, in perpetuity, of equally suitable foraging habitat on an acre-per-acre basis based on the project's determined acreage impact". On an individual basis, the acquisition of lands for habitat conservation may not always be feasible or prudent and many small, disconnected preserves do not benefit the species as well as large, connected preserve systems. Therefore, the ordinance provides for the establishment of impact mitigation fees, which in some circumstances, may be paid in-lieu of providing habitat lands. These fees accumulate and are held in trust by the County until they can be used for the acquisition of foraging habitat of a size large enough to be biologically and economically viable. The current fee is $12,925 per acre. In addition, there is a one-time administrative fee of $500. These fees may be amended from time to time to ensure they accurately reflect market-rate land prices.

Under the Swainson's Hawk Impact Mitigation Program, only projects which have an impact of less than 40 acres are eligible to pay fees. This project will impact 25 acres and therefore may pay fees consistent with the Program. The Sacramento County

Office of Planning and Environmental Review (PER) administers the Swainson's Hawk Impact Mitigation Program and more information on lands likely to be determined as acceptable replacement habitat can be found at their website http://www.per.saccounty.net/EnvironmentalDocuments/Pages/SwainsonsHawkOrdinance.aspx.

NESTING RAPTORS

Raptors are defined as members of the order Falconiformes (vultures, eagles, hawks, and falcons) and the order Strigiformes (owls). Common species of raptors found locally include Cooper's hawk (*Accipiter cooperii*) red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), American kestrel (*Falco sparverius*), barn owl (*Tyto alba*), and great horned owl (*Bubo virginianus*).

Raptors and their active nests are protected by the California Fish and Game Code Sections 3503.5, 3511, and 3513. The Code states the following: "It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird." Because most raptors migrate they are also protected by the Federal Migratory Bird Treaty Act of 1918, which states "unless and except as permitted by regulations, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill" a migratory bird. Section 3(18) of the Federal Endangered Species Act defines the term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Causing a bird to abandon an active nest may cause harm to egg(s) or chick(s) and is therefore considered "take."

The project site predominantly contains remnant mine tailings, woodlands, and open grassland. Mature trees of sufficient size to support tree-nesting raptors are located throughout the project site. Raptors, in general, build nests in large mature trees; though there are some ground-nesting species such as the northern harrier and the burrowing owl (refer to species-specific discussions, below).

Since the project area may provide suitable tree nesting habitat, construction activities may impact nesting raptors if they occur within 500 feet of suitable nesting trees; 500 feet is the buffer used by Sacramento County and other nearby jurisdictions as a screening tool, and has been accepted by CDFW. To avoid impacts to tree-nesting raptors, mitigation is recommended requiring pre-construction nesting surveys. The purpose of the survey requirement is to ensure that construction activities do not agitate nesting raptors, potentially resulting in nest abandonment or other harm to nesting success. If raptor nests are found, the applicant is required to contact CDFW to determine what measures need to be implemented in order to ensure that nesting raptors remain undisturbed. The measures selected will depend on many variables, including the distance of activities from the nest, the types of activities, whether the landform between the nest and activities provides any kind of natural screening, and other variables.

Impacts to nesting raptors may happen upon outset of building construction activities and upon a new 80-acre field training area being used. Pre-construction surveys for nesting raptors are required prior to construction or land clearing activities that occur during nesting season (generally March through mid-September), for all mature trees within 500 feet of project construction activities. If nesting raptors are observed, the applicant shall consult with CDFW and determine the appropriate measures that must be implemented. If no nesting raptors are observed, no further mitigation will be required. For this project, construction activities associated with building construction may take place over multiple years and likewise every time the field training area is rotated, nesting surveys will need to be completed.

If nesting raptors are found to be present measures may include, but are not limited to,

If active nests of protected species are found within the survey area and breeding and fledging success may be affected, a work exclusion zone shall be established around each nest by a qualified biologist. Established exclusion zones shall remain in place until all young in the nest have fledged or the nest otherwise becomes inactive (e.g., due to predation). Appropriate exclusion zone sizes shall be determined by a qualified biologist and may vary dependent upon bird species, nest location, existing visual buffers, noise levels, and other factors (an exclusion zone radius may be as small as 50 feet for common, disturbance-adapted species or as large as 250 feet or more for raptors). Exclusion zone size may be reduced from established levels if supported with nest monitoring findings by a qualified biologist indicating that work activities outside the reduced radius are not adversely impacting the nest. the following:

With implementation of recommended mitigation, impacts to nesting raptors are ***less than significant***.

BURROWING OWL

The burrowing owl (*Athene cunicularia hypugea*) is a California Species of Concern. Burrowing owl habitat can be found in annual and perennial grasslands, deserts, and arid scrublands characterized by low-growing vegetation (Zarn 1974). Suitable owl habitat may also include trees and shrubs if the canopy covers less than 30 percent to the ground surface. Burrows are the essential component of burrowing owl habitat. Both natural and artificial burrows provide protection, shelter, and nesting habitat for burrowing owls (Henny and Blus 1981). Burrowing owls typically use burrows made by fossorial mammals, such as ground squirrels or badgers, but also use man-made structures such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement.

Burrowing owls may use a site for breeding, wintering, foraging, and/or migration stopovers. Breeding season takes place from February 1 to August 31 and wintering takes place from September 1 to January 31. Occupancy of suitable burrowing owl habitat can be verified at a site by detecting a burrowing owl, its molted feathers, cast pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance. Burrowing owls exhibit high site fidelity, reusing burrows year after year (Rich 1984, Feeney 1992).

The nearest recorded burrowing owl is located ½ mile to the east. This occurrence (#1254) was recorded in 2007 and noted a pair with juveniles. WRA Environmental Consultants did not observe any burrowing owls while completing the biological resources assessment in 2016. The biologist also noted that the tree coverage, high grasses and lack of burrows would substantially reduce the likelihood of owls inhabiting the project site. The nearest recorded burrowing owl is in an area of open grassland and supporting the reasoning of why none are present on the project site.

According to the California Department of Fish and Wildlife "Staff Report on Burrowing Owl Mitigation" (March 2012), surveys for burrowing owl should be conducted whenever suitable habitat is present within 500 feet of a proposed impact area; this is also consistent with the "Burrowing Owl Survey Protocol and Mitigation Guidelines" published by The California Burrowing Owl Consortium (April 1993). Occupancy of burrowing owl habitat is confirmed whenever one burrowing owl or burrowing owl sign has been observed at a burrow within the last three years.

The CDFW Staff Report on Burrowing Owl Mitigation indicates that the impact assessment should address the factors which could impact owls, the type and duration of disturbance, the timing and duration of the impact, and the significance of the impacts. The assessment should also take into account existing conditions, such as the visibility and likely sensitivity of the owls in question with respect to the disturbance area and any other environmental factors which may influence the degree to which an owl may be impacted (e.g. the availability of suitable habitat).

While no owls were observed in 2016, consistent with CDFW protocol, surveys should be conducted whenever suitable habitat is present within 500 feet of the disturbed area. This is true of the proposed field instruction expansion areas, especially since there is a known occurrence in the vicinity. In order to reduce potential impacts to owl nests which may be undiscovered, the applicant shall have a qualified biologist perform a focused survey, prior to the construction of improvements or buildings, for burrowing owls according to the CDFW "Staff Report on Burrowing Owl Mitigation (March 2012)" and the "Burrowing Owl Survey Protocol and Mitigation Guidelines," published by The California Burrowing Owl Consortium (April 1993). If no active burrows are found during the focused survey, no further mitigation will be required. If active burrows are found, mitigation shall be implemented consistent with the CDFW staff report recommendations. Both CDFW and the Environmental Coordinator shall be contacted and provided with an avoidance and mitigation plan. With mitigation, the use of the project site would not result in substantial negative effects to the sustainability of the species and thus impacts to burrowing owls are ***less than significant***.

FERRUGINOUS HAWK

According to the CDFW Life History Account for the ferruginous hawk, the species is an uncommon winter resident and migrant at lower elevations and open grasslands in the Central Valley. The species requires large, open tracts of grasslands, sparse shrub, or desert habitats with elevated structures for nesting. The species is migratory, and generally arrives in California in September and departs by mid-April. The Life History Account also indicates that the species has a tendency to displace red-tailed hawks and

Swainson's hawks. There is no published regulatory guidance on mitigation of foraging habitat for this species.

Any species wintering in the general project area would likely be in competition with the known Swainson's hawk that forage in the vicinity of the site. The fact that Swainson's hawk are successfully occupying the area makes it less likely that ferruginous hawk use the site. Nonetheless, the project has the potential to remove winter foraging habitat for the species. Mitigation for foraging habitat loss has already been required as part of Swainson's hawk impacts, and since the two species use the same habitats, additional mitigation is unnecessary. The use of the project site would not result in substantial negative effects to the sustainability of the species and thus impacts to ferruginous hawk habitat are ***less than significant***.

NORTHERN HARRIER

According to the CDFW Life History Account for the northern harrier the species occurs in a wide range of habitat types and elevations, from grasslands in the Central Valley to alpine meadows as high as 10,000 feet. The species is a widespread winter resident and migrant, though an uncommon nesting season resident in the Central Valley. The population has declined in California, largely due to destruction of breeding habitat. The species is mostly found in flat or hummocky open areas of tall, dense grasses, moist or dry shrubs, with edges for nesting, cover, and feeding. There is no published regulatory guidance on mitigation of foraging habitat for this species.

The project has the potential to remove 25 acres of foraging habitat for the species. Mitigation for foraging habitat loss has already been required as part of Swainson's hawk impacts, because the two species use the same habitat. Additional mitigation for the northern harrier is unnecessary. The use of the project site would not result in substantial negative effects to the sustainability of the species and thus impacts to northern harrier are ***less than significant***.

WHITE-TAILED KITE

According to the CDFW Life History Account for the white-tailed kite, the species is a resident in coastal and valley lowlands which is rarely found away from agricultural areas. The species forages in undisturbed grasslands, meadows, farmlands, and emergent wetlands. Substantial groves of dense, broad-leafed deciduous trees are used for nesting and roosting. The species is listed as Fully Protected due to nesting impacts.

The loss of 25 acres of grassland habitat would decrease the availability of foraging habitat. Mitigation for foraging habitat loss has already been required as part of Swainson's hawk impacts, because the two species use the same habitat. Additional mitigation for the white-tailed kite is unnecessary. The use of the project site would not result in substantial negative effects to the sustainability of the species and thus impacts to white-tailed kite are ***less than significant***.

BREEDING BIRDS AND OTHER BIRDS OF CONCERN

The project has the potential to impact five special-status non-raptor bird species including: Nuttall's woodpecker, loggerhead shrike, yellow-billed magpie, oak titmouse, and grasshopper sparrow. The project also has the potential to affect non-special-status native nesting birds protected by the Migratory Bird Treaty Act and/or California Fish and Game Code. If the project causes a bird to abandon an active nest may cause harm to egg(s) or chick(s) and is therefore considered "take." To avoid take of nesting migratory birds, mitigation has been included to require that activities either occur outside of the nesting season, or to require that nests be buffered from construction activities until the nest or nesting tree becomes inactive. Recommended mitigation ensure impacts to migratory birds are ***less than significant***.

YELLOW-BILLED MAGPIE

The yellow-billed magpie is endemic to California, occurring year-round in the Central Valley and associated foothills and the central-southern Coast Ranges. This species inhabits oak savanna, open oak woodland, and similar park-like areas including the margins of stream courses and some agricultural areas. Breeding typically occurs in loose colonies. The large, dome-shaped nests are placed high in trees, usually oaks, and often in clumps of mistletoe (Koenig and Reynolds 2009). This species is an omnivore and an opportunistic feeder. Yellow-billed magpie was observed on-site during the August site assessment. The project area contains cottonwoods interspersed with open grasslands which could support both nesting and foraging by this species. The East Preservation Area retains habitat for the yellow-billed magpie. Mitigation for grassland habitat loss has already been required as part of Swainson's hawk impacts; because the two species use the same habitats, additional mitigation for the yellow-billed magpie is unnecessary. The use of the project site would not result in substantial negative effects to the sustainability of the species and thus impacts yellow-billed magpie habitat are ***less than significant***.

LOGGERHEAD SHRIKE

Loggerhead shrike is a year-round resident or winter visitor in lowlands and foothills throughout California. This species is associated with open country with short vegetation and scattered trees, shrubs, fences, utility lines, and/or other perches. Although they are songbirds, shrikes are predatory and forage on a variety of invertebrates and small vertebrates. Captured prey items are often impaled for storage purposes on suitable substrates, including thorns or spikes on vegetation and barbed wire fences. The loggerhead shrike nests in trees and large shrubs; nests are usually placed three to ten feet off the ground (Shuford and Gardali 2008).

Grassland and open woodland foraging habitat is present throughout the Project Area. Suitable large trees and dense vegetation which may support nesting by this species are also present. The East Preservation Area retains habitat for the loggerhead shrike. Mitigation for grassland habitat loss has already been required as part of Swainson's hawk impacts; because the two species use the same habitats, additional mitigation for the loggerhead shrike is unnecessary. The use of the project site would not result in

substantial negative effects to the sustainability of the species and thus impacts to loggerhead shrike habitat are ***less than significant***.

NUTTALL'S WOODPECKER

Nuttall's woodpecker, common in much of its range, is a year-round resident throughout most of California west of the Sierra Nevada. Typical habitat is oak or mixed woodland and riparian areas (Lowther 2000). This species forages on a variety of arboreal invertebrates. Nesting occurs in tree cavities, principally those of oaks and larger riparian trees.

The Project Area provides large trees with cavities suitable for nesting. This species was observed during the site visit and has been commonly observed in the adjacent landscape (eBird 2016). The East Preservation Area retains habitat for the Nuttall's woodpecker as large trees are available for nesting. Mitigation for tree loss is included for impacts to native trees; additional mitigation for the Nuttall's woodpecker is unnecessary. The use of the project site would not result in substantial negative effects to the sustainability of the species and thus impacts to oak titmouse habitat are ***less than significant***.

OAK TITMOUSE

This relatively common species is year-round resident throughout much of California including most of the coastal slope, the Central Valley and the western Sierra Nevada foothills. Seeds and arboreal invertebrates make up the birds' diet. Its primary habitat is oak woodland. Local populations have adapted to woodlands of pines and/or junipers in some areas (Cicero 2000). The oak titmouse nests in tree cavities, usually natural cavities or those excavated by woodpeckers, though they may partially excavate their own (Cicero 2000).

The Project Area contains suitable cottonwood trees with cavities capable of supporting nesting by this species. This species has been commonly observed in the vicinity (eBird 2016). Due to the presence of both nesting and foraging habitat, as well as nearby occurrences, this species has a high potential to nest on-site. Mitigation for tree loss is included for impacts to native trees; additional mitigation for the oak titmouse is unnecessary. The use of the project site would not result in substantial negative effects to the sustainability of the species and thus impacts to oak titmouse habitat are ***less than significant***.

GRASSHOPPER SPARROW

According to the CDFW Life History Account for the grasshopper sparrow, the species is an uncommon and local summer resident and breeder in foothills and lowlands, arriving in California from March to May and migrating south in August or September. The species occurs in dry, dense grasslands, especially those with a variety of grasses and tall forbs and scattered shrubs for singing perches. Nests are built of grasses and forbs in a slight depression in the ground, hidden at the base of an overhanging clump of grasses or forbs. There is no published regulatory guidance on mitigation of foraging habitat for this species.

The project has the potential to remove up to 25 acres of foraging and nesting habitat for the species. The East Preservation Area retains habitat for the grasshopper sparrow. Mitigation for grassland habitat loss has already been required as part of Swainson's hawk impacts; because the two species use the same habitats, additional mitigation for the grasshopper sparrow is unnecessary. The use of the project site would not result in substantial negative effects to the sustainability of the species and thus impacts to grasshopper sparrow habitat are ***less than significant***.

MITIGATION MEASURES:

BR-2 Initiation of ground disturbance (clearing and grubbing, grading, or construction) for campus building construction or opening of new, or reopening of, 80-acre field instruction area shall be conducted between September 15 and March 1. If new disturbance must be conducted during the nesting season, March 1 to September 15, a focused survey for Swainson's hawk nests on the site and within ½ mile of the site shall be conducted by a qualified biologist in accordance with the Swainson's Hawk Survey Protocol outlined in the Swainson's Hawk Technical Advisory Committee 2000 paper. Note that multiple surveys may be required depending on the timing of the surveys. If active nests are found, the California Department of Fish and Wildlife shall be contacted to determine appropriate protective measures, and these measures shall be implemented prior to the start of any ground-disturbing activities. If no active nests are found during the focused survey, no further mitigation will be required.

BR-3 Prior to any surface disturbance for campus building construction, such as clearing or grubbing, the issuance of any permits for grading, building, or other site improvements, implement one of the following options to mitigate for the loss of 25 acres of Swainson's hawk foraging habitat on the project site:

a. The project proponent shall utilize one or more of the mitigation options (land dedication and/or fee payment) established in Sacramento County's Swainson's Hawk Impact Mitigation Program (Chapter 16.130 of the Sacramento County Code).

b. The project proponent shall, to the satisfaction of the California Department of Fish and Wildlife, prepare and implement a Swainson's hawk mitigation plan that will include preservation of Swainson's hawk foraging habitat.

c. Should the County Board of Supervisors adopt a Swainson's hawk mitigation policy/program (which may include a mitigation fee payable prior to issuance of building permits) prior to the implementation of one of the measures above, the project proponent may be subject to that program instead.

BR-4 If construction activity (which includes clearing, grubbing, or grading) is to commence within 500 feet of suitable nesting habitat between March 1 and

September 15, a survey for raptor nests shall be conducted by a qualified biologist. The survey shall cover all potential tree and ground nesting habitat on-site and off-site up to a distance of 500 feet from the project boundary. The survey shall occur within 30 days of the date that construction will encroach within 500 feet of suitable habitat. The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Environmental Coordinator prior to ground disturbing activity. If no active nests are found during the survey, no further mitigation will be required. If any active nests are found, the Environmental Coordinator and California Department of Fish and Wildlife shall be contacted to determine appropriate avoidance/protective measures. The avoidance/protective measures shall be implemented prior to the commencement of construction within 500 feet of an identified nest.

Appropriate avoidance/protective measures may include, but are not limited to the following:

> Project activities related to campus building construction or opening of new, or the reopening of, 80-acre field instruction area activities (such as vegetation removal, grading, or initial ground-disturbing activities) with the potential to adversely affect nesting birds shall be conducted between September 1 and January 31 (outside of the September 15 to January 31 nesting season) to the extent feasible. If such activities must be conducted during the nesting season, a pre-disturbance nesting-bird survey of potential nesting habitat (i.e., grasslands, shrubs, trees, snags and open ground) shall be conducted by a qualified biologist no more than 14 days prior to vegetation removal or initial ground disturbance. Because typical buffer distances are 100-250 feet for unlisted raptors, the survey shall include the disturbance area and surrounding 250 feet to identify the location and status of any nests that could potentially be affected either directly or indirectly by Project activities.
>
> If active nests of protected species are found within the survey area and breeding and fledging success may be affected, a work exclusion zone shall be established around each nest by a qualified biologist. Established exclusion zones shall remain in place until all young in the nest have fledged or the nest otherwise becomes inactive (e.g., due to predation). Appropriate exclusion zone sizes shall be determined by a qualified biologist and may vary dependent upon bird species, nest location, existing visual buffers, noise levels, and other factors (an exclusion zone radius may be as small as 50 feet for common, disturbance-adapted species or as large as 250 feet or more for raptors). Exclusion zone size may be reduced from established levels if supported with nest monitoring findings by a qualified biologist indicating that work activities outside the reduced radius are not adversely impacting the nest.

The survey shall occur no more than 14 days prior to the date that construction will encroach within 500 feet of suitable habitat. The biologist shall supply a brief written report (including date, time of survey, survey method, name of surveyor and survey results) to the Environmental Coordinator prior to ground disturbing activity. If no active nests are found during the survey, no further mitigation will be required.

BR-5 Prior to campus building construction or opening of new, or the reopening of, 80-acre field instruction area activities (which includes clearing, grubbing, or grading) within 500 feet of suitable burrow habitat, a survey for burrowing owl shall be conducted by a qualified biologist. The survey shall occur within 30 days of the date that construction will encroach within 500 feet of suitable habitat. Surveys shall be conducted in accordance with the following:

a. A survey for occupied burrows and owls should be conducted by walking through suitable habitat over the area to be disturbed and in areas within 150 meters (~500 feet) of the project impact zone.

b. Pedestrian survey transects should be spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines should be no more than 30 meters (~100 feet), and should be reduced to account for differences in terrain, vegetation density, and ground surface visibility. To efficiently survey projects larger than 100 acres, it is recommended that two or more surveyors conduct concurrent surveys. Surveyors should maintain a minimum distance of 50 meters (~160 feet) from any owls or occupied burrows. It is important to minimize disturbance near occupied burrows during all seasons.

c. If no occupied burrows or burrowing owls are found in the survey area, a letter report documenting survey methods and findings shall be submitted to the Environmental Coordinator and no further mitigation is necessary.

d. If occupied burrows or burrowing owls are found, then a complete burrowing owl survey is required. This consists of a minimum of four site visits conducted on four separate days, which must also be consistent with the Survey Method, Weather Conditions, and Time of Day sections of Appendix D of the California Fish and Wildlife “Staff Report on Burrowing Owl Mitigation” (March 2012). Submit a survey report to the Environmental Coordinator which is consistent with the Survey Report section of Appendix D of the California Fish and Wildlife “Staff Report on Burrowing Owl Mitigation” (March 2012).

e. If occupied burrows or burrowing owls are found the applicant shall contact the Environmental Coordinator and confer with California Fish and Wildlife prior to construction, and will be required to submit a Burrowing Owl Mitigation Plan (subject to the approval of the Environmental Coordinator and in consultation with California Fish and Wildlife). This plan must document all proposed measures, including avoidance,

minimization, exclusion, relocation, or other measures, and include a plan to monitor mitigation success. The California Fish and Wildlife "Staff Report on Burrowing Owl Mitigation" (March 2012) shall be followed in the development of the mitigation plan.

BR-6 To Avoid impacts to nesting migratory birds the following shall apply:

a. If construction activity (which includes clearing, grubbing, or grading) is to commence within 50 feet of nesting habitat between February 1 and August 31, a survey for active migratory bird nests shall be conducted no more than 14 day prior to construction by a qualified biologist.
b. Trees slated for removal shall be removed during the period of September through January, in order to avoid the nesting season. Any trees that are to be removed during the nesting season, which is February through August, shall be surveyed by a qualified biologist and will only be removed if no nesting migratory birds are found.
c. If active nest(s) are found in the survey area, a non-disturbance buffer, the size of which has been determined by a qualified biologist, shall be established and maintained around the nest to prevent nest failure. All construction activities shall be avoided within this buffer area until a qualified biologist determines that nestlings have fledged, or until September 1.

Amphibians

As identified in Table BR-2 the project site supports suitable habitat for the western spadefoot toad (*Scaphiopus (Spea) hammondii)* and California tiger salamander.

Western Spadefoot Toad

The western spadefoot (*Scaphiopus (Spea) hammondii)* occurs in shallow, seasonal wetlands in valley and foothill habitats such as grasslands, open chaparral, sage scrubland, short-grass plains, and pine woodlands. Spadefoot occur in both grazed and ungrazed habitat. Adult spadefoot occupy burrows up to three feet in depth in upland habitat during dry periods to avoid desiccation (Zeiner et al., 1990). Individuals may remain in these burrows for eight to nine months. Most surface activity is nocturnal. The spadefoot leave their upland burrows for wetlands during the breeding season, which lasts from January to August, depending on rainfall. It appears that vernal pools and other temporary wetlands may be optimal for breeding due to the absence or reduced abundance of both native and nonnative predators (bullfrogs, fish, and crawfish), many of which require more permanent water sources. Current research on amphibian conservation suggests that average habitat utilization falls within 1,200 feet of aquatic habitats (USFWS 2005).

Wetland and vernal pool complexes on the project site vary in size and depth and some retain water for several months. The surrounding upland area is grassland the project site provides suitable breeding and non-breeding habitat to support the toad. There is no published regulatory guidance on habitat mitigation for this species.

Project development will remove potential habitat and may involve possible take of the species. According to the Vernal Pool Recovery Plan (USFWS, 2005), the western spadefoot was added as a Species of Concern in 2004. Western spadefoot has been observed in several counties across the state, and a number of sites with suitable habitat for western spadefoot are already being protected through National Wildlife Refuges, National Monuments, State Parks, State Ecological Reserves, private preserves, mitigation banks, and conservation easements. Additionally, 23 vernal pool species are federally protected; preservation efforts for those species and associated habitats will contribute to the conservation of the western spadefoot.

While a localized population of the toad may be reduced through expansion of the field training operation, the regional population will not be reduced significantly for the reasons stated above. Locally, conservation lands which provide habitat for the western spadefoot toad include the Mather Regional Park, Burke Ranch (1,000 acres), Gill Ranch Conservation bank (1,800 acres) and Sunrise Douglas Preservation Bank (480 acres). Further, project preservation of at least 158 to upwards of 1,000 onsite acres of vernal pool and associated upland habitat and other preservation/creation requirements included in mitigation for vernal pool invertebrates and wetland habitats will contribute to the local and regional conservation of western spadefoot habitat. Project impacts to the western spadefoot toad are ***less than significant***.

CALIFORNIA TIGER SALAMANDER

According to the California Fish and Wildlife Life History Account for the species, the California tiger salamander (*Ambystoma californiense*, referred to herein as CTS) is restricted to low elevation areas below 1500 feet above sea level. During most of the year the species lives below-ground in burrows created by small mammals or in man-made structures (e.g. underground pipes); except where refuge sites have been unearthed or disturbed, or under conditions of aseasonal rainfall, CTS have not been observed outside of the wet-season breeding period. Suitable breeding habitat for the species includes longer-lasting vernal pools, some permanent and semi-permanent ponds, such as stock ponds, and slow-moving sections of streams. The species is listed as threatened by both the federal and State government.

CTS larvae require significantly more time to transform into juvenile adults than other species of amphibians. Ponds that can support CTS should typically sustain ponding into June, although this can be influenced by the month during which inundation began. If inundation occurs earlier in the season, the wetland need not last through June. The larval stage of the species lasts 3 to 6 months, and the larvae will die if they have not metamorphosed into adults before the pond dries. Therefore, in order to be considered potential habitat, ponding must be maintained for a minimum of approximately 90 days[6]. Water bodies that do not dry during the summer months are typically not considered

[6] United States Fish and Wildlife Service, 2004. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the California Tiger Salamander, Central Population. Federal Register 69(153) 48570-48649

habitat, because such persistent water bodies support bullfrogs (*Rana catesbeiana)* and other predators. A strong negative association between bullfrogs and California tiger salamanders has been documented.

Although the Final Rule listing the California tiger salamander was posted in August 2004, final programmatic consultation for surveys and mitigation has not been published. USFWS "Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander" (October 2003) is the accepted survey protocol document. According to the survey protocol published by USFWS, aquatic sampling for larvae during spring months is one of the most effective ways to determine if California tiger salamander are present in a given area. For sites with both upland habitat and potential breeding habitat (i.e., pools that contain standing water continuously for at least 10 weeks, extending into April), aquatic sampling during two breeding seasons and a drift fence study in the intervening winter should be conducted to support a negative finding. In years with little rainfall, upland emergence may be reduced and California tiger salamander may not breed and additional sampling may be required by USFWS. The most reliable survey results are obtained in years with at least 70% of average rainfall between September 1 and April 1.

Mitigation requires that either the applicant mitigate for impacts to California tiger salamander or demonstrate absence of the species through two seasons of focused California tiger salamander surveys, following USFWS protocol, where suitable habitat is present in the project area. Suitable habitat includes areas where water pools for at least 10 weeks, and adjacent upland areas with rodent burrows. If no California tiger salamander are found in the survey area, a letter report documenting survey methods and findings shall be submitted to the County and no further mitigation is necessary.

If California tiger salamander are found or the applicant chooses to assume presence and provide mitigation without first attempting to screen out the species through surveys, the applicant must develop a project-specific conservation strategy in consultation with regulatory agencies,. At a minimum, any mitigation strategy must result in 1:1 compensation of suitable breeding habitat and 1:1 compensation for all upland habitat within 500 feet of suitable breeding habitat[7]. Implementation of the recommended mitigation measure will ensure impacts to California tiger salamander are ***less than significant***.

MITIGATION MEASURES:

BR-7 Prior to surface disturbance in new field instruction areas, two seasons of focused California Tiger Salamander (CTS) surveys are required which follow U.S. Fish and Wildlife's "Interim Guidance on Site Assessment and Field

[7] Pittman, B. Observations of Upland Habitat Use by California Tiger Salamanders Based on Burrow Excavations. Transactions of the Western Section of the Wildlife Society 41:26 – 30; 2005.

Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander" (October 2003), or the protocol current at the time of construction.

A. If no CTS are found in the survey area, a letter report documenting survey methods and findings shall be submitted to the County for approval and no further mitigation is necessary.

B. If CTS are found the applicant shall, prior to any project related activity that would impact CTS habitat or the approval of grading or improvement plans, whichever comes first, contact the Environmental Coordinator and consult with U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife to develop a conservation program for CTS. At a minimum, any alternative mitigation strategy must result in 1:1 compensation of suitable breeding habitat and 1:1 compensation for all upland habitat within 500 feet of suitable breeding habitat, and must be approved by both U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife.

Invertebrates

The project site contains vernal pool complexes and seasonal wetlands that support a variety of species. The following invertebrates exist or have a high potential to exist on the project site: California linderiella, midvalley fairy shrimp, Ricksecker's water scavenger beetle, vernal pool fairy shrimp, and vernal pool tadpole shrimp. All of these species are associated with vernal pool and wetland environments and are not readily observed through casual observation. If suitable habitat is present, the species must be assumed to be present unless surveys have found the species to be absent. Discussion of the California linderiella, midvalley fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp are grouped under the heading of Vernal Pool Crustaceans, because the survey protocols and mitigation requirements are applied to all four species.

It should also be noted that USFWS has published the "Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon" (Recovery Plan), the purpose of which is to achieve self-sustaining populations of many species which rely on vernal pools. The Recovery Plan identifies "core areas", which are areas that are vital to achieve the goals of the plan. Core areas are ranked 1, 2, or 3 depending on their overall priority for recovery, with rank 1 being highest priority. The western portion of the property lies within the Cosumnes/Rancho Seco Core Area (Plate BR-6), which is rank 1.

Plate BR-6: Vernal Pool Recovery Area

VERNAL POOL CRUSTACEANS

Four special-status vernal pool crustaceans, including the unlisted midvalley fairy shrimp (*Branchinecta mesovallensis*) and California linderiella (*Linderiella occidentalis*) and the federally listed vernal pool fairy shrimp (*Branchinecta lynchi*) (VPFS) and vernal pool tadpole shrimp (*Lepidurus packardi*) (VPTS), have either been observed within the project area or have a high potential to occur (WRA 2018). California linderiella, midvalley fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp use the same habitat types, though California linderiella tends to prefer deeper pools. The shrimp feed on algae, bacteria, protozoa, rotifers and bits of detritus. The females carry their eggs in a ventral brood sac until they are dropped to the bottom of the pool, or the mother dies and sinks. At the end of the rainy season, as the pool dries up, the eggs remain in a dormant stage in the dried pool until the rains of the next season, or other environmental stimuli cause them to hatch. Cysts will hatch when the pool refills, although not all cysts present will hatch during the following rainy season, and they may remain dormant in the soil for multiple seasons.

Survey requirements and mitigation protocols published by USFWS ("Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods" published April 19, 1996 and the Programmatic Formal Endangered Species Act Consultation published on February 28, 1996) are only required by USFWS for the two species listed under the ESA: vernal pool fairy shrimp and vernal pool tadpole shrimp. However, the discussions and mitigation below apply them to the two Species of Concern, California linderiella and midvalley fairy shrimp.

All four crustacean species are recorded in the CNDDB as occurring within ½ mile of the site. Based on the proximity of recorded sightings, it is reasonable to assume that the various shrimp species are present on the site as well. Furthermore, protocol surveys have not been performed for the site. Surveys to determine presence of absence of ESA-listed crustaceans must include either 2 years of wet season surveys completed within a 5-year period or consecutive wet season and dry season surveys. In the absence of surveys, presence should be assumed.

A USFWS programmatic consultation was published for ESA-listed vernal pool crustaceans on February 28, 1996. Programmatic consultation can only be used by Projects involving a maximum impact of one acre, and thus the Project must be individually permitted through the USACE and the USFWS. Individual permit requirements are varied, depending upon the quality of the habitat lost, the nature of the impact, and the quality of the mitigation land offered – among other factors.

The programmatic consultation indicates that all habitats within 250 feet of proposed development may be subject to indirect impacts, though this buffer distance can be smaller as part of the individual permitting process. In absence of an individual permit, for complete avoidance vernal pools must be avoided by a minimum of 250 feet. Encroachment within this buffer may only occur if approved by USFWS. Based on this guidance all vernal pools within 250 feet of proposed roads, trails, and land

development will be indirectly impacted. The project will both remove some wetlands and encroach within the 250-foot buffer of other wetlands not removed.

Ultimately, mitigation requirements will be defined through the individual permitting process, but consistent with Sacramento County General Plan policy the mitigation below stipulates a minimum of 1:1 mitigation for habitat lost. The project could reduce local populations of California linderiella, midvalley fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp. In-kind mitigation (on-site preservation or purchase of credits) will be required for the loss of habitat on the site, and none of the wetlands proposed to be filled on-site are within an area described as vital to the recovery for vernal pool habitats and their dependent species. Project impacts are reduced to ***less than significant*** with mitigation.

RICKSECKER'S WATER SCAVENGER BEETLE

The Ricksecker's water scavenger beetle is an aquatic beetle that lives in weedy, shallow, open water, associated fresh water seeps, springs, farm ponds, vernal pools, and slow-moving stream habitats. The USFWS species profile[8] only contains listing status and a general map, as little is known about the life history of the species. It is listed primarily due to its association with in-decline habitats, rather than based on known population trends. The beetle is known to co-occur with vernal pool fairy shrimp. There are no recorded occurrences of Ricksecker's water scavenger beetle in the project vicinity, but they are assumed to be present in the project area due to the presence of suitable habitat.

Neither survey nor mitigation protocols for this species have been published by USFWS. Since population trends have not been well established, it is unclear to what extent the species relies on the rarer vernal pool and seasonal wetland habitats versus more abundant surface water types. For the purposes of this analysis, it is assumed that local populations of the species have at least some dependency on vernal pool and seasonal wetland habitats, since this is the more conservative assumption.

Mitigation below indicates that if protocol surveys indicate absence of all four species of crustacean, as described in the section above, then it may also be assumed that Ricksecker's water scavenger beetle is absent. Since the species occupies the same habitat as listed crustaceans, mitigation for wetland crustaceans will also serve as feasible mitigation for impacts to the Ricksecker's water scavenger beetle. Project impacts are ***less than significant*** with mitigation.

[8] http://ecos.fws.gov/speciesProfile/profile/speciesProfile.action?spcode=I0FE

VALLEY ELDERBERRY LONGHORN BEETLE

The following discussion is based on the Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle[9] (Conservation Guidelines). The valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), referred to as VELB for the remainder of the discussion is federally-listed as Threatened. VELB is completely dependent on its host plant, elderberry (*Sambucus* species), which is a common component of the remaining riparian forests and adjacent upland habitats of the Central Valley. In non-riparian settings, elderberries occur solitarily or in groups in oak woodlands and annual grasslands. The adult-stage of the species is short-lived, so the majority of the species' life is spent in larval form within the stem of an elderberry plant. Adults emerge from late March through June, at around the same time as the elderberry produces flowers. This leaves an exit hole in the stem of the plant, which is often the only exterior evidence of the plant's use by the beetle. Upon emergence, VELB typically stay within the local shrub clump with average distances ranging from 65 to 165 feet. Distances between occupied clumps range from 656 to 2,625 feet.

The Conservation Guidelines encourage the avoidance of riparian habitat or elderberry shrubs whenever possible. Since the dispersal of VELB is generally limited, guidance suggests surveying for elderberry shrubs on and extending 165 feet from the project limits. If elderberry shrubs are present then the impact analysis will be guided by whether or not the project is within riparian or non-riparian habitat. In riparian habitats the shrubs are considered suitable habitat and are likely occupied. In non-riparian habitats the shrubs are evaluated for exit holes. If there are no exit holes, the surrounding area is evaluated for: VELB occurrences up to 2,625 feet, nearby habitat and historical habitat. The final determination of VELB habitat is then discussed with the USFWS.

Projects that may impact VELB or its habitat should implement appropriate avoidance and minimization measures. The Conservation Guidelines indicate that not all measures are appropriate for every project and that the applicant should coordinate with the USFWS. The minimization measures include: fencing and flagging close to construction limits, training contractors and employees about the need to avoid the plants, posting signs along the edge of the avoidance area with a standardized message about avoiding impacts, construction outside of emergence window (March – July), and pruning shrubs in winter and to stems no larger than one inch in diameter. Minimum restoration activities include revegetating disturbed areas with native plants, protection of the buffered area from post-construction impacts (establishment of fencing, signs, weeding, and trash removal), prohibition on the use of pesticides or fertilizers within the buffer, and restrictions on grass mowing (for fire hazard reduction).

[9] United Stated Fish and Wildlife Service. 2017. "Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)". U.S. Fish and Wildlife Service; Sacramento, CA. 28 pp.

The Conservation Guidelines indicate that, unless U.S. Fish and Wildlife exempts a project from the requirement, all elderberry plants with one or more stems measuring 1.0 inch or greater in diameter at ground level which cannot be avoided must be transplanted to a conservation area. A list of guidelines for transplanting elderberry shrubs and trees is included which specifies that transplantation must occur during dormancy (November through the first two weeks of February) and that a biological monitor must be present. Detailed instructions for appropriate transplantation are also included. For unavoidable impacts to VELB or its habitat, compensatory mitigation is recommended. Compensation is calculated in Table BR-4 below. In order to fulfill mitigation requirements, applicants can purchase credits at a USFWS approved conservation bank, provide on-site mitigation, or establish and/or protect habitat for VELB.

Table BR-4: Mitigation Ratios for VELB Impacts

Habitat Level Compensation		
Habitat Type	**Compensation Ratio[1]**	
Riparian	3:1	
Non-riparian	1:1	
Shrub Level Impact Compensation		
Habitat Type	**Habitat Compensation Ratio[2]**	**If the Entire Shrub will be Removed**
Riparian	2:1	Transplant + 2:1 compensation
Non-riparian (exit holes present)	1:1	Transplant + 1:1 compensation

[1] acre(s) of credits: acre(s) of disturbance; one credit (unit) = 1,800 sq. ft

[2] Number of credits: number of shrubs trimmed

PROJECT IMPACTS

The project is not within a riparian area; however, there are elderberry shrubs on the project site. The project site was previously surveyed in 2006 by ECORP Consulting. The survey found 417 shrubs within the 1,500 acre survey area. The report noted that the shrub population was old with minimal regeneration (elderberry seedlings) observed possible due to grazing activities. Further, no exit holes were observed during the 2006 survey. In preparation of the Biological Resources Assessment prepared for this project, as biologists encountered elderberry shrubs, the shrubs were inspected and again no exit holes or beetles were observed. In total, 30 individual shrubs were encountered in 2016.

The project area was dredged which dumped loosened cobble laden soils and created linear rows which collect rainwater which allows for the propagation of vegetation. The project site is not historically connected to the Cosumnes River riparian corridor. According to the Conservation Guidelines, if a site is not riparian and there are no exit holes present, the surrounding area within 2,625 feet should be evaluated to determine if there is suitable VELB habitat. This has not been completed, and not all shrubs on the project site have been surveyed for exit holes. The nearest recorded observations

of VELB are along the Cosumnes River over 2,625 feet away. Similarly, while there are no recorded occurrences, VELB habitat was planted along Buckeye Creek within the Laguna Mitigation Bank. Again this habitat is over 2,625 feet away.

While there is strong survey evidence that the population of elderberry shrubs on the project site are not inhabited by VELB, their absence is not guaranteed since surveys and consultation consistent with the latest USFWS protocol has not be conducted. Prior to any new ground disturbance, the applicant will need to complete surveys per the recommended Conservation Guidelines and present findings to the USFWS to determine VELB impacts and any necessary mitigation. The USFWS may exempt a project from the Conservation Guidelines if it agrees that there are no VELB present and that the habitat is not suitable for VELB no further mitigation would be required. Otherwise, individual shrub transplant and/or habitat compensation may be required. Mitigation is recommended to incorporate the USFWS recommended avoidance and minimization measures and to complete consultation with the USFWS to determine the final compensation ratio for the project. Project impacts are ***less than significant*** with mitigation.

MITIGATION MEASURES:

BR-8 Presence of listed vernal pool crustaceans shall be assumed unless determinate surveys that comply with the U.S. Fish and Wildlife protocol "Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods" (published April 19, 1996) conclude that the species is absent. In order to reduce impacts to listed vernal pool branchiopods and wetland habitat the applicant shall comply with one or a combination of the following:

1. *Total Avoidance: Species is present or assumed to be present.* Unless a smaller buffer is approved through formal consultation with the U.S. Fish and Wildlife, construction fencing shall be installed a minimum of 250 feet from the delineated wetland edge. All construction activities are prohibited within this buffer area. If total avoidance is achieved, no further action is required.
2. *Compensate for habitat removed.* Mitigate for all vernal pools consistent with the Programmatic Formal Endangered Species Act Consultation published on February 28, 1996 for vernal pool branchiopods, if the project qualifies. Also, obtain all applicable permits from the U.S. Fish and Wildlife, U.S. Army Corps of Engineers, California Fish and Wildlife, and the Central Valley Regional Water Quality Control Board for the proposed modifications to on-site wetlands and mitigate for habitat loss in accordance with the published regulatory guidelines. If the project does not qualify for the programmatic consultation, separate consultation will be required for the project.

BR-9 In order to reduce project impacts to the Valley Elderberry Longhorn Beetle (VELB) habitat to a less than significant level the following mitigation measures,

consistent with U.S. Fish and Wildlife Service Conservation Guidelines for the Valley Elderberry Longhorn Beetle, will be required:

1. Conduct VELB surveys consistent with the latest U.S. Fish and Wildlife Service Conservation Guidelines prior to ground disturbance within 165 feet of an elderberry shrub. Confer with the U.S. Fish and Wildlife Service with survey results and obtain any permits as required through the consultation process. Consultation will be required for the education campus and for each field instruction rotation area if not done comprehensively for the entire 456 acres disturbance area. If through consultation no permits are required, then mitigation is complete.

2. For construction prior to obtaining the applicable permits allowing removal of the elderberry plants, protective measures shall apply. Prior to initiating construction, the following measures shall be completed:

    a. Temporary construction fencing and flagging shall be installed at least 165 feet outside the edge of the driplines of the elderberry plants. In areas where encroachment on the 165-foot buffer has been approved by U.S. Fish and Wildlife Service, provide a minimum setback of at least 20 feet from the dripline of each elderberry plant and provide documentation of U.S. Fish and Wildlife Service approval of the reduced setback.

    b. Brief contractors on the need to avoid damaging the elderberry plants and the possible penalties for not complying with these requirements.

    c. Erect signs every 50 feet along the edge of the avoidance area with the following information: "This area is habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines and imprisonment." The signs should be clearly readable from a distance of 20 feet, and must be maintained for the duration of construction.

    d. Instruct work crews about the status of the beetle and the need to protect its elderberry host plant.

Plants

Ten special-status plant species have moderate or high potential to occur or are present in the project area: hogwallow starfish (*Hesperevax caulescens*), legenere (*Legenere limosa*), Sanford's arrowhead (*Sagittaria sanfordii*), dwarf downingia (*Downingia pusilla*), Tuolumne button-celery (*Eryngium pinnatisectum*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), Ahart's dwarf rush (*Juncus leiospermus var. ahartii*), pincushion navarretia (*Navarretia myersii ssp. myersii*), slender Orcutt grass (*Orcuttia tenuis*), and Sacramento Orcutt grass (*Orcuttia viscida*) (WRA 2018).

The project site contains vernal pool and seasonal wetland habitat that could provide suitable habitat for a variety of rare plants (refer to Table BR-2). Plant surveys were conducted by ECORP Consultants in 2007 and more recently in April 2016, by WRA Environmental Consultants (Appendix BR-3). Specific information from the Biological Resource Assessment/Plant Survey regarding species observed on-site is included in the impact analysis below. Additional surveys will be required prior to ground disturbance since a comprehensive or protocol-level survey was not completed, and the significant passage of time (20 years) before some areas will be disturbed. Otherwise, if project activities occur a minimum of 250 feet from vernal pools, then it may be presumed that impacts to rare plants within the vernal pools will be avoided.

LEGENERE

Legenere is a weakly erect or decumbent annual herb that grows in moist or wet ground. The plant has yellow flowers, which are produced between April through June and extend from the main body of the plant on long, slender pedicels. This species occurs in drying beds of vernal pools in valley grassland ranging from sea level to 1,400 feet in elevation. Legenere is listed by the California Native Plant Society's Inventory of Rare and Endangered Plants as category 1B.1 (seriously endangered in California, rare and endangered elsewhere) and is found throughout the Sacramento Valley.

The project site was surveyed previously in 2007; the species was observed and information submitted to the CNDDB. In 2016, WRA completed new rare plant surveys to confirm presence of this species and others based on prior reports. According to the CNDDB, one known occurrence, #70, appears to be within the proposed East Preservation Area and the other occurrences are within the West Preservation Area. The occurrence #70 was confirmed in the 2016 survey.

While known occurrences are within proposed preserve areas, preserve areas are adjacent to proposed field instruction areas and since ground disturbance may not occur for 20 years, there is a potentially significant impact to legenere. Mitigation is recommended to conduct protocol-level rare plant surveys (*Protocols for Surveying and Evaluating Impacts to Special Status native Plant Populations and Sensitive Natural Communities* dated March 20, 2018, or the most recent CDFW rare plant survey protocols) for all directly impacted vernal pool/seasonal wetland habitat. If legenere is identified and avoidance is infeasible, prior to construction within the 250 feet of the vernal pool(s) with the plant occurrence, the project applicant must notify the CDFW and USFWS and comply with any permit or mitigation requirements stipulated by those agencies. Implementation of the recommended mitigation measure will reduce impacts to ***less than significant***.

SANFORD'S ARROWHEAD

Sanford's arrowhead occurs in emergent marsh habitats, including habitats which are modified or human-made. Sanford's arrowhead is designated as a federal species of special concern and is listed by the California Native Plant Society's Inventory of Rare and Endangered Plants as category 1B.2 (i.e. rare throughout its range in California with a moderate probability of going extinct). Sanford's is fairly common in the Sacramento area. Potential suitable marsh habitats include the margins of rivers,

streams, ponds, reservoirs, irrigation and drainage canals and ditches, and stock-ponds. In order to avoid impacts to the species, appropriate habitat must be avoided or a survey must be performed demonstrating that the species is not present.

The project site was surveyed previously in 2007; the species was observed and information submitted to the CNDDB. In 2016, WRA completed new rare plant surveys to confirm presence of this species and others based on prior reports. However, the survey area did not include the entire proposed field instruction area and therefore not all previously documented occurrences within the project area were surveyed. According to the CNDDB, two known occurrences, #69 and 70, appear to be within the proposed field instruction expansion area.

Since there are known occurrences on the project site, there is a potentially significant impact to Sanford's arrowhead. Therefore, protocol-level rare plant surveys (*Protocols for Surveying and Evaluating Impacts to Special Status native Plant Populations and Sensitive Natural Communities* dated March 20, 2018, or the most recent CDFW rare plant survey protocols) for Sanford's arrowhead must be completed prior to ground disturbance of suitable habitat. If the plants and supporting habitat cannot be avoided, the plants shall be transplanted and monitored for success. Implementation of the recommended mitigation measure will reduce impacts to ***less than significant***.

MITIGATION MEASURES:

BR-10 Prior to the initial ground disturbance of each 80-acre field instruction rotation area, a rare plant survey shall be performed by a qualified botanist in accordance to the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* dated March 20, 2018, or the most recent CDFW rare plant survey protocols.

Submit a written report to the Environmental Coordinator which describes the survey. The survey report should include a brief description of the vegetation, survey results (which includes a list of all species observed), photographs, time spent surveying, date of surveys, a map showing the location of the survey route and any rare plant populations and copies of any rare plant occurrence forms. If no rare plants are found, no further mitigation for plant species is required. If a special status plant or natural community is located, complete and submit to the CNDDB a California Native Species (or Community) Field Survey Form or equivalent written report. Total avoidance of habitats which contain rare plants shall be required unless deemed infeasible by the Environmental Coordinator. If avoidance is infeasible, prior to construction within 250 feet of the vernal pool(s) which contain the rare plant occurrences, notify California Department of Fish and Wildlife and U.S. Fish and Wildlife Service and comply with any permit or mitigation requirements stipulated by those agencies. Submit copies of all such correspondence, including a copy of any required permits, to the Environmental Coordinator.

Measures may include but are not limited to a preconstruction survey of all areas to be disturbed. If any special-status plant species are identified, the botanist will flag and Global Positioning System (GPS) the location.

Impacts to special-status plant species shall be avoided to the maximum extent feasible and habitat that supports special-status plant species shall be preserved. If avoidance is not feasible, perennial plant species shall be transplanted to suitable habitat and plant propagules shall be collected from annual plant species after maturity. Under the direction of the qualified botanist, plant propagules shall be harvested from at least 50 percent of plants that would be impacted by Project activities.

Harvested plant propagules shall be stored for reintroduction into suitable habitat after restoration/creation activities are complete.

BR-11 If Sanford's Arrowhead are found the botanist shall establish distribution of the colony(s) and estimate the number of individuals in the population. Unless deemed infeasible by the Environmental Coordinator, all plants or tuber/rhizomes shall be removed from the area of impact and transplanted to a new or existing preserve or, if the impact is temporary, replanted in the same location after the disturbance. Surveys shall be performed annually at the transplant location for a period of three years, to ensure success. If survival is not meeting a minimum 60% survivorship, transplantation will be deemed failed. In cases where transplanting is deemed infeasible, or where transplanting has failed, compensatory mitigation shall be provided. Compensatory mitigation shall consist of placement of a conservation easement over a known, unprotected population of the species.

IMPACT: CONFLICT WITH LOCAL POLICIES OR ORDINANCES PROTECTING BIOLOGICAL RESOURCES

The overarching goals of General Plan Policies CO-64 and -65, OS-1 and -2 are to preserve large, high quality, contiguous pieces of land which support habitat for a large range of plant and animal species. Project design includes large areas of avoided open space that incorporates several types of wetland resources (vernal pools, seasonal drainages and associated upland) and species. Project design appears to meet the intent of the General Plan policies. A comprehensive discussion of the projects consistency with applicable goals and policies of General Plan and Zoning Code is included in Appendix AG-1.

The Sacramento County General Plan Conservation Element policies CO-138 and CO-139 provide protections for native trees. Mitigation measure BR-12 requires mitigation for impacts to Fremont cottonwoods, which are native trees. Therefore, with implementation of mitigation measures, the project is consistent with adopted policies and ordinances protecting biological resources therefore this impact is ***less than significant***.

The project site contains distinct areas of Fremont cottonwood woodland habitat, though it is not considered riparian habitat on this site. The habitat has likely formed due to the disruption of the soils from past dredging activities as it is only present along the dredge tailing rows. The dominant hardwood species is Fremont cottonwood (*Populus fremontii*) with a few native blue and valley oaks and native black walnut, with an understory of elderberry shrubs (*Sambucus sp.*), willow (*Salix sp.*) and poison oak.

The Biological Resources Assessment prepared for the project site identifies eight species of trees present within the Project Area. A formal tree survey has not been completed, but a GIS-based canopy analysis indicates that within the areas identified for field instruction, there is approximately 40.39 acres of Fremont cottonwood woodland habitat. Of the eight species of trees present only one, blue gum eucalyptus (*Eucalyptus globulus)*, is non-native and would not be considered under CO-139. Where trees cannot be avoided in the field instruction area, mitigation for impacts to native trees will be provided consistent with CO-139. This impact is considered ***less than significant*** after mitigation.

MITIGATION MEASURES:

BR-12 Prior to impacts to native trees, a tree survey shall be conducted which records the species, DBH, and condition of all trees within areas of impact. The removal of native trees shall be compensated for by planting in-kind native trees equivalent to the dbh inches lost, based on the ratios listed below, at locations that are authorized by the Environmental Coordinator. On-site preservation of native trees that are less than 6 inches (<6 inches DBH), may also be used to meet this compensation requirement. Native trees include: valley oak (*Quercus lobata*), interior live oak (Quercus wislizenii), blue oak (*Quercus douglasii*), or oracle oak (*Quercus morehus*), California sycamore (*Platanus racemosa*), California black walnut (Juglans californica, which is also a List 1B plant), Oregon ash (*Fraxinus latifolia*), western redbud (Cercis occidentalis), gray pine (*Pinus sabiniana*), California white alder (*Alnus rhombifolia*), boxelder (*Acer negundo*), California buckeye (*Aesculus californica*), narrowleaf willow (*Salix exigua*), Gooding's willow (*Salix gooddingii*), red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), shining willow (*Salix* lucida), Pacific willow (*Salix lasiandra*), Fremont's cottonwood (*Populus fremontii*), and dusky willow (*Salix melanopsis*).

The replacement tree planting plan shall be completed prior to surface disturbance within a new phase. Compensation may include equivalent DBH for trees planted based on the following ratios:

- one preserved native tree < 6 inches dbh on-site = 1 inch dbh
- one D-pot seedling (40 cubic inches or larger) = 1 inch dbh
- one 15-gallon tree = 1 inch dbh
- one 24-inch box tree = 2 inches dbh

- one 36-inch box tree = 3 inches dbh

Prior to surface disturbance within a new phase, a Replacement Tree Planting Plan shall be prepared by a certified arborist or licensed landscape architect and shall be submitted to the Environmental Coordinator for approval. The Replacement Tree Planting Plan(s) shall include the following minimum elements:

1. Species, size and locations of all replacement plantings and < 6-inch dbh trees to be preserved
2. Method of irrigation
3. If planting in soils with a hardpan/duripan or claypan layer, include the Sacramento County Standard Tree Planting Detail L-1, including the 10-foot deep boring hole to provide for adequate drainage
4. Planting, irrigation, and maintenance schedules;
5. Identification of the maintenance entity and a written agreement with that entity to provide care and irrigation of the trees for a 3-year establishment period, and to replace any of the replacement trees which do not survive during that period.
6. Designation of 20-foot root zone radius and landscaping to occur within the radius of trees < 6 inches dbh to be preserved on-site.

Replacement tree plantings shall be varied from a 10-foot minimum to a 40-foot maximum, averaging 25 feet apart, in a mosaic pattern that mimics existing Fremont cottonwood woodlands. No Replacement tree shall be planted within 15 feet of the driplines of existing oak trees or landmark size trees that are retained on-site or within 20 feet of the field instruction areas.

Native trees <6 inches dbh to be retained on-site shall have at least a 20-foot radius suitable root zone. The suitable root zone shall not have impermeable surfaces, turf/lawn, dense plantings, soil compaction, drainage conditions that create ponding (in the case of oak trees), utility easements, or other overstory tree(s) within 20 feet of the tree to be preserved. Trees to be retained shall be determined to be healthy and structurally sound for future growth, by an ISA Certified Arborist subject to Environmental Coordinator approval. If tree replacement plantings are demonstrated to the satisfaction of the Environmental Coordinator to be infeasible for any or all trees removed, then compensation shall be through payment into the County Tree Preservation Fund. Payment shall be made at a rate of $325.00 per dbh inch removed but not otherwise compensated, or at the prevailing rate at the time payment into the fund is made.

IMPACT: INTERFERE SUBSTANTIALLY WITH THE MOVEMENT OF ANY NATIVE RESIDENT OR MIGRATORY FISH OR WILDLIFE SPECIES

The majority of the project area and surrounding areas are undeveloped open space, which may serve as corridors for wildlife movement through the site. The project would permanently preserve most of the 1,500-acre site as habitat areas. The permanent preservation areas surround and bisect the campus and field instruction areas allowing for continued connection to habitats within, and surrounding the project area. No significant migratory corridors are anticipated to be affected by project activities. Project activities will not result in the construction of barriers that could block movement or migration of wildlife species (e.g. long solid walls, canals, paved highways, etc.). Additionally, only 80 acres of surface disturbance will be active within the field instruction areas at any one time. Each phase is five years, and following each 5-year period, that phase area will be seeded and allowed to compact for future field instruction activities. For these reasons, ***no significant*** impacts to wildlife movement will occur as a result of the Project.

IMPACT: 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 area is located within the boundary of the SSHCP, but is outside of the SSHCP Urban Development Area and is not a covered activity. Projects that are within the SSHCP boundary, but cannot participate in the permitting program are still required to comply with the SSHCP Aquatic Resources Permit adopted for the SSHCP. The applicant will need to obtain any all permits from regulatory agencies under current permitting processes, then submit this information to Sacramento County for an Aquatic Resources Permit under the SSHCP. The applicant shall provide the County with documented evidence of such approvals and compliance with conditions. Therefore, the project will not conflict with any adopted HCPs or other conservation plans, and the impact is ***not significant***.

7 CLIMATE CHANGE

INTRODUCTION TO CLIMATE CHANGE AND GLOBAL WARMING

The principal greenhouse gases (GHGs) that enter the atmosphere because of human activities are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. From 1750 to 2004, concentrations of CO2, CH4, and N2O have increased globally by 35, 143, and 18 percent, respectively. Other greenhouse gases, such as fluorinated gases, are created and emitted solely through human activities. (EPA 2012) Carbon dioxide is the gas that is most commonly referenced when discussing climate change because it is the most commonly emitted gas. While some of the less common gases do make up less of the total greenhouse gases emitted to the atmosphere, some have a greater climate-forcing effect per molecule and/or are more toxic than carbon dioxide.

CARBON DIOXIDE

Carbon dioxide emissions are mainly associated with combustion of carbon-bearing fossil fuels such as gasoline, diesel, and natural gas used in mobile sources and energy-generation-related activities. The U.S. Environmental Protection Agency (EPA) estimates that CO_2 emissions accounted for 84.6% of greenhouse gas emissions in the United States in 2004 (EPA 2012). The California Energy Commission (CEC) estimates that CO_2 emissions account for 84% of California's anthropogenic (manmade) greenhouse gas emissions, nearly all of which is associated with fossil fuel combustion (CEC 2005). Total CO_2 emissions in the United States increased by 20% from 1990 to 2004 (EPA 2012).

METHANE

CH_4 has both natural and anthropogenic sources. Landfills, natural gas distribution systems, agricultural activities, fireplaces and wood stoves, stationary and mobile fuel combustion, and gas and oil production fields categories are the major sources of these emissions. The EPA estimates that CH_4 emissions accounted for 7.9% of total greenhouse gas emissions in the United States in 2004 (EPA 2012). The CEC estimates that CH_4 emissions from various sources represent 6.2% of California's total greenhouse gas emissions (CEC 2005). Total CH_4 emissions in the United States decreased by 10% from 1990 to 2004 (EPA 2012).

NITROUS OXIDE

N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizers that contain nitrogen. Global concentration for N_2O in 1998 was 314 ppb, and in addition to agricultural sources for the gas, some industrial processes (fossil fuel fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load (EPA 2012).

The EPA estimates that N_2O emissions accounted for 5.5% of total greenhouse gas emissions in the United States in 2004 (EPA 2012). The CEC estimates that nitrous oxide emissions from various sources represent 6.6% of California's total greenhouse gas emissions (CEC 2005). Total N_2O emissions in the United States decreased by 2% from 1990 to 2004 (EPA 2012).

Fluorinated Gases (HFCs, PFCs, and SF_6)

Fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6), are powerful greenhouse gases that are emitted from a variety of industrial processes. The primary sources of fluorinated gas emissions in the United States include the production of HCFC-22, electrical transmission and distribution systems, semiconductor manufacturing, aluminum production, magnesium production and processing, and substitution for ozone-depleting substances. The EPA estimates that fluorinated gas (HFC, PFC, and SF_6) emissions accounted for 2.0% of total greenhouse gas emissions in the United States in 2004. (EPA 2012) The CEC estimates that fluorinated gas emissions from various sources represent 3.4% of California's total greenhouse gas emissions (CEC 2005). Total fluorinated gas emissions in the United States increased by 58% from 1990 to 2004 (EPA 2012).

Sacramento County Emissions

The ICLEI (Local Governments for Sustainability) Clean Air and Climate Protection Model was used to estimate unincorporated Sacramento County emissions, along with the emissions of all of the incorporated cities in the County. This complete inventory was done to provide a regional picture, but the County does not have control over incorporated city emissions (http://www.green.saccounty.net/Pages/GreenLinksandRescources.aspx). The baseline year 2005 was chosen based on availability of information. In cases where 2005 data was unavailable, 2006 or other recent-year data was substituted. The software inventories community GHG emissions for all operations, with a separate government analysis tab that determines GHG emissions of local government operations as a subset of the community analysis. The community analysis divides GHG emissions among residential (energy usage), commercial and industrial (energy usage), transportation (exhaust emissions), off-road vehicle use (exhaust emissions), waste (landfill emissions), wastewater treatment (energy usage), agriculture (fertilizers, enteric fermentation, etc), High GWP (high global warming potential, such are refrigerants), and airport (emissions from County buildings and fleets – does not include fleet owned by airlines) sectors. The government analysis divides emissions among buildings, vehicle fleet, employee commute, streetlights, water/sewage, and waste sectors.

For the community analysis, energy use was obtained for the Sacramento Municipal Utility District (SMUD) and the Pacific Gas and Electric Company (PG&E). Community waste generation for Sacramento County was collected through the California Integrated Waste Management Board web site and through consultation with staff of

Sacramento County Municipal Services Agency. The SMUD reported its 2005 GHG emissions and an emissions factor for all electricity sold to customers that was verified and certified by the California Climate Action Registry. This emissions factor was input into the model as a replacement for the statewide emissions factor for electricity consumption to generate more accurate GHG emissions estimates for Sacramento County electricity consumption. The analysis also uses localized vehicle miles traveled information using the outputs from the Sacramento Regional Travel Demand Model and the emissions factors from the Emission Factors Model 2007 (EMFAC 2007). The software default emissions factors for other GHGs, which are based on statewide averages, were used in all other instances.

As shown in Table CC-1, the County 2005 emission baseline is approximately 5.0 MMT per year, with the transportation sector as the largest contributor at 41% of the total. The emissions per sector drop precipitously from there, with the residential sector emitting only half of the transportation sector total. However, the residential and commercial sectors can be combined to give a more overarching view, because though these sectors operate differently, the source of emissions are the same: private building and interior equipment energy usage. Combining these sectors, transportation accounts for 40% of emissions, and operation of residential, commercial, and industrial buildings accounts for 36% of emissions. The off-road vehicle, waste, wastewater, water, agriculture, and high global warming potential greenhouse gases (High GWP GHG) sectors combined are responsible for only 20% of the County emissions, with the airport as an additional 4%.

Table CC-1: 2005 Community Emissions by Sector

Sector	CO_2e (metric tons)	Percent
Residential	1,033,142	20.7
Commercial and Industrial	772,129	15.4
Transportation	2,066,970	41.4
Off-Road Vehicle Use	236,466	4.7
Waste	201,350	4.0
Wastewater Treatment	70,662	1.4
Water-Related	5,885	0.1
Agriculture	197,132	4.0
High GWP GHGs	203,528	4.1
Airport	200,404	4.0
Total	**4,987,668**	**100**

REGULATORY SETTING

EXECUTIVE ORDER S-3-05

Executive Order S-3-05 was the precursor to Assembly Bill 32 (AB 32 is described in the next section) and was signed by Governor Schwarzenegger in June 2005. The Executive Order states that California is "particularly vulnerable" to the impacts of climate change, and that climate change has the potential to reduce Sierra snowpack (a primary source of drinking water), exacerbate existing air quality problems, adversely impact human health, threaten coastal real estate and habitat by causing sea level rise, and impact crop production. The Executive Order also states that "mitigation efforts will be necessary to reduce greenhouse gas emissions". To address the issues described above, the Executive Order established emission reduction targets for the state: reduce GHG emissions to 2000 levels by 2010, to 1990 levels by 2020 and to 80% below 1990 levels by 2050. Currently only the 2020 target has been adopted by the state through legislation (see Assembly Bill 32, below). As a result, all of the impact discussions, mitigation, and strategies are based on meeting the 2020 target, not the longer-term 2050 target.

RENEWABLE PORTFOLIO STANDARD (RPS)

Established in 2002 under SB 1078, accelerated in 2006 under SB 107, and expanded in 2011 under SB 2, California's RPS is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020.

It should be noted that SMUD was the only large California utility to meet the statewide goal of supplying 20 percent of its power from renewables in 2010. In fact, SMUD exceeded the statewide goal and their own goal of 23.8 percent by supplying more than 24 percent of its retail sales with renewable energy in 2010. SMUD has chosen to meet or exceed the State requirements of 33 percent by 2020 and is well on their way to meeting their own 2020 goal of 37 percent. In 2015, SB 350 was signed into law by Governor Jerry Brown. This bill extended the State's RPS program by requiring that publicly owned utilities procure 50 percent of their electricity from renewable energy sources by 2030.

ASSEMBLY BILL 32

In September 2006, Assembly Bill (AB) 32 was signed by Governor Schwarzenegger of California. AB 32 requires that California GHG emissions be reduced to 1990 levels by the year 2020, just like Executive Order S-3-05. However, AB 32 is a comprehensive bill that requires ARB to adopt regulations requiring the reporting and verification of statewide greenhouse gas emissions, and it establishes a schedule of action measures. AB 32 also requires that a list of emission reduction strategies be published to achieve emissions reduction goals.

SENATE BILL 375

On September 30, 2008, Senate Bill (SB) 375 was signed by Governor Schwarzenegger. SB 375 combines regional transportation planning with sustainability strategies in order to reduce greenhouse gas emissions in California's urbanized areas. Existing law requires each regional transportation planning agency, which in Sacramento County's case is the Sacramento Area Council of Governments (SACOG), to adopt a Metropolitan Transportation Plan. SB 375 required the California Air Resources Board (CARB) to set performance targets for reduction of passenger vehicle emissions per capita in each of 16 Metropolitan Planning Organizations (MPOs) in the state for 2020 and 2035. For the SACOG MPO, these targets were set at 7% below 2005 per capita emissions for 2020 and 16% below 2005 per capita emissions for 2035. MPOs are not required to meet the greenhouse gas emission targets established by ARB, but if they conclude it is not feasible to do so, they must prepare an Alternative Planning Scenario to demonstrate what further land use and/or transportation actions would be required to meet the targets. SB 375 also requires that the Metropolitan Transportation Plan for each MPO include a Sustainable Communities Strategy (SCS) that integrates the land use and transportation components, and amends CEQA to provide incentives for housing and mixed use projects that help to implement an MTP/SCS that meets the CARB targets.

SENATE BILL 32

On September 8, 2016 Senate Bill (SB) 32 was signed by Governor Jerry Brown. SB 32 builds upon previous GHG reduction goals by requiring that the CARB ensures that statewide GHG emissions are reduced by 40 percent below the 1990 level by the year 2030. Additionally, SB 32 emphasized the critical role that reducing GHG emissions would plan in protecting disadvantaged communities and the public health from adverse impacts of climate change. Enactment of SB 32 was predicated on the enactment of Assembly Bill 197, which seeks to make the achievement of SB 32's mandated GHG emission reductions more transparent to the public and responsive to the Legislature.

ENDANGERMENT FINDING

On December 7, 2009, the U.S. EPA made an Endangerment Finding and a Cause or Contribute Finding related to greenhouse gases. The U.S. EPA Administrator found that the current and projected concentrations of the six key well-mixed greenhouse gases – carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) – in the atmosphere threaten the public health and welfare of current and future generations (endangerment). The Administrator also found that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare (Cause or Contribute).

SACRAMENTO COUNTY GENERAL PLAN

The Land Use Element of the Sacramento County General Plan contains the following applicable policy:

LU-115. It is the goal of the County to reduce greenhouse gas emissions to 1990 levels by the year 2020. This shall be achieved through a mix of State and local action.

SACRAMENTO COUNTY CLIMATE ACTION PLANNING

In October of 2011 Sacramento County approved the Climate Action Plan Strategy and Framework document (CAP), which is the first phase of developing a community-level Climate Action Plan. The CAP provides a framework and overall policy strategy for reducing greenhouse gas emissions and managing our resources in order to comply with AB 32. It also highlights actions already taken to become more efficient, and targets future mitigation and adaptation strategies. This document is available at http://www.green.saccounty.net/Documents/sac_030843.pdf. The CAP contains policies/goals related to agriculture, energy, transportation/land use, waste, and water.

Goals in the section on agriculture focus on promoting the consumption of locally-grown produce, protection of local farmlands, educating the community about the intersection of agriculture and climate change, educating the community about the importance of open space, pursuing sequestration opportunities, and promoting water conservation in agriculture. Actions related to these goals cover topics related to urban forest management, water conservation programs, open space planning, and sustainable agriculture programs.

Goals in the section on energy focus on increasing energy efficiency and increasing the usage of renewable sources. Actions include implementing green building ordinances and programs, community outreach, renewable energy policies, and partnerships with local energy producers.

Goals in the section on transportation/land use cover a wide range of topics but are principally related to reductions in vehicle miles traveled, usage of alternative fuel types, and increases in vehicle efficiency. Actions include programs to increase the efficiency of the County vehicle fleet, and an emphasis on mixed use and higher density development, implementation of technologies and planning strategies that improve non-vehicular mobility.

Goals in the section on waste include reductions in waste generation, maximizing waste diversion, and reducing methane emissions at Kiefer landfill. Actions include solid waste reduction and recycling programs, a regional composting facility, changes in the waste vehicle fleet to use non-petroleum fuels, carbon sequestration at the landfill, and methane capture at the landfill.

Goals in the section on water include reducing water consumption, emphasizing water efficiency, reducing uncertainties in water supply by increasing the flexibility of the water allocation/distribution system, and emphasizing the importance of floodplain and open space protection as a means of providing groundwater recharge. Actions include metering, water recycling programs, water use efficiency policy, water efficiency audits, greywater programs/policies, river-friendly landscape demonstration gardens, participation in the water forum, and many other related measures.

SIGNIFICANCE CRITERIA

CEQA Guidelines section 15064.4 states that an agency should make a "good faith effort . . . to describe, calculate, or estimate the amount of greenhouse gas emissions resulting from a project". It is left to the lead agency's discretion to use a quantitative or qualitative approach. Factors that should be considered when determining significance are:

1. The extent to which the project may increase or decrease greenhouse gas emissions compared to the baseline;

2. Whether the project exceeds any applicable significance threshold; and

3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

The guidelines do not include a numeric significance threshold, but instead defer to the lead agency to determine whether there are thresholds which apply to the project. With regard to the third item, statewide plans include AB 32 and SB 375, as described in the Regulatory setting. The underlying strategy and assumptions of the AB 32 Scoping Plan were used to develop County thresholds. AB 32 requires emissions be reduced to 1990 levels by the year 2020, which is estimated in the AB 32 2008 Scoping Plan to be 15% below *existing (2005) emissions*. The text is emphasized to note that the goal is not 15% below what is known as "business-as-usual" conditions or unmitigated project emissions; it is 15% below the emissions which were existing in California in the year 2005. In the AB 32 2017 Scoping Plan, emissions need to be reduced to 40% below 1990 levels by 2030.

SMAQMD has adopted thresholds that ensure that 90 percent of emissions from projects in the region are reviewed to determine the need for additional mitigation. According to SMAQMD's methodology, a land use development project with operational emissions that are less than 1,100 metric tons (MT) of carbon dioxide equivalent (CO_2e) per year will not result in a significant impact and will not require additional mitigation. SMAQMD assumes that projects with operational emissions below 1,100 MT of CO_2e /year will not exceed their construction GHG threshold of significance as long as the project does not include buildings that are more than four stories tall, significant

trenching, demolition activities, a compact construction schedule, significant cut and fill operations, or significant truck activity.

As previously discussed, Sacramento County prepared a GHG emissions inventory for the County, and as an offshoot of that process has published a Draft Climate Action Plan. Thresholds have been developed based on the County inventory (see Table CC-2). As shown below, separate thresholds have been included for each sector. The purpose of this division is to provide additional information about the source of emissions. When making a final determination of significance, these thresholds can be combined to generate a total emissions threshold; it is this total threshold that will ultimately determine whether impacts are found to be significant.

Also note that the transportation sector is expressed in per capita, which is not applicable to non-residential projects. The determination was made that, in general, non-residential projects redistribute existing trips made by passenger vehicles – they do not generate new trips. The majority of trips to and from a commercial project are generated by residential uses. Residential projects are already being required to account for transportation emissions, so including them for commercial projects as well would result in double-counting. Therefore, only the truck-trips generated by a commercial project itself will be subject to analysis. An exception to this rule is any commercial project which is a regional draw or unique draw, and thus may cause the redistribution of existing trips in a manner that will increase total existing vehicle miles traveled (VMT). This project is not a commercial project and therefore the exception does not apply.

Table CC-2: Sacramento County Greenhouse Gas Significance Thresholds (Annual Metric Tons CO_2e)

Sector	Thresholds	
	2020	***draft* 2030**
Residential Energy	1.33 per capita	0.78 per capita
Commercial & Industrial Energy	7.87 per Kft^2	4.59 per KSF
Transportation	2.67 per capita	1.57 per capita
Trucks	*0.10 per 100 VMT*	

KSF=thousand square feet

Thresholds applicable to construction activities have not been developed. Emissions resulting from the usage of off-road vehicles is only 4.7% of the total inventoried emissions in Sacramento County, which includes recreational and other vehicles, not just construction fleets. Furthermore, while emissions from the actual use of newly constructed buildings adds to existing building stock and thus results in a cumulative year-on-year increase in emissions, the amount of construction in a region does not result in cumulative additions. Though construction may increase or decrease in a

given year due to market demand, the average amount of construction undertaken does not tend to increase over time. For this reason, even without mitigation the amount of annual emissions resulting from construction is expected to decrease over time as a result of the implementation of existing regulations (such as the low carbon fuel standard) and fleet turnover. An analysis of the data for construction equipment within the EMFAC (Emissions Factor Model) 2011 indicates that construction fleet emissions will reduce by approximately 11% between 2005 and 2020. Standard mitigation applied for the purpose of reducing other air pollutants (see the Air Quality chapter) will further reduce emissions. For the foregoing reasons, it was determined that construction emissions would not contribute to a significant climate change impact, and no threshold is necessary.

METHODOLOGY

SMAQMD has established recommended thresholds that ensure that 90 percent of emissions from projects in the region are reviewed to determine the need for additional mitigation. According to SMAQMD's methodology, a land use development project with operational emissions that are less than 1,100 metric tons (MT) of carbon dioxide equivalent (CO_2e) per year will not result in a significant impact and will not require additional mitigation. SMAQMD assumes that projects with operational emissions below 1,100 MT of CO_2e /year will not exceed their construction GHG threshold of significance as long as the project does not include buildings that are more than four stories tall, significant trenching, demolition activities, a compact construction schedule, significant cut and fill operations, or significant truck activity.

SMAQMD has established an Operational Screening Levels table, which shows the size of development, by land use type, that SMAQMD has determined would not exceed the operational GHG emissions thresholds. Projects that are smaller than those listed in the table and, which meet the construction parameters listed above, are considered to have a less than significant impact related to Climate Change. For projects that exceed the development size listed in the table, SMAQMD recommends the use of CalEEMod to quantify the GHG emissions that would be generated by the project.

Pursuant to Sacramento County methodology, SMAQMD's threshold of 1,100 MT of CO_2e /year is used as an initial screening threshold. Projects which screen out using the screening threshold of 1,100 MT/year of CO_2e are considered to have a less than significant impact related to Climate Change and no further analysis is required. Projects which do not screen out using SMAQMD's GHG Operational screening levels table or SMAQMD's threshold of 1,100 MT of CO_2e /year must then be evaluated using the County's GHG thresholds (Table CC-2).

The OE3 Training Center has been in operation for 45 years located in Rancho Murieta. Greenhouse gas emissions associated with the classrooms, administration and field equipment training are part of the baseline emissions for the Sacramento region air basin. Even though the project is not a new use or operation, the proposed new campus facility and expanded equipment training area (15 percent increase) would add

new greenhouse gas emissions to the air basin. Yorke Engineering, LLC prepared a technical study for the project which includes an analysis of GHG emissions, February 2018 (reference Appendix AQ-1).

The proposed project's operational GHG emissions for the new campus building were estimated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 software. CalEEMod is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions, including GHG emissions, from land use projects. The model applies inherent default values for various land uses, including electricity and natural gas usage, water supply and distribution, wastewater treatment, and solid waste disposal. However, where project-specific data was available, such data was input into the model (e.g., equipment type and quantity used, vehicle trips). Emissions associated with the field training exercises were estimated using a spreadsheet created by Yorke, using CARB OFFROAD Model guidance. Emissions were modeled for project operation for year 2020 (building operation with field equipment training).

Impacts And Analysis

The following section discloses the potential impacts of the proposed project on global climate change.

Impact: Generate Greenhouse Gas Emissions That May Impact The Environment

Implementation of the project would contribute to increases of GHG emissions that are associated with global climate change, primarily attributed to mobile (field equipment training) sources and utility usage (building operation, well operation). The heavy equipment used for field training ranges in age and some equipment has Tier Zero engines (most polluting). An assumption made in the technical report assumed Tier Zero engines would not operate more than three hours per day. Equipment operation is dependent on the training needed and it's rare all pieces of equipment are operating continuously. In a typical training scenario, only a subset of equipment is operating specific to the training class being taught. This use and equipment has been operating in the County for 45 years and on this property on a regular basis. The air quality and greenhouse gas analysis assumes a 15 percent increase in training activities above the baseline conditions that are currently operating at the site (Yorke 2018). With this assumption and application of Basic Construction Emission Control Practices (BCECP), project operations would result in 629 MT CO2e/year above the baseline condition. A complete summary of GHG emissions are provided in Table CC-3 below.

Table CC-3: GHG Emissions Summary

Threshold	CO_2e Annual Emissions (MT)			
	Building Construction	Building Operation	Training Activities Increase	Combined Emissions, Training Activities Increase and Building Operation
1,100 MT/yr	526	483	146	629

Note: MT/yr = metric tons per year
Source: York 2018.

Neither construction nor operation activities would exceed the SMAQMD screening threshold of 1,100 MT CO2e/year threshold, and no further analysis is required. Greenhouse gas emissions that may impact the environment are ***less than significant.***

IMPACT: CONFLICT WITH PLANS, POLICIES, OR REGULATIONS ADOPTED TO REDUCE GREENHOUSE GAS EMISSIONS

As stated in the methodology section above, the project has been in operation for 45 years. The baseline greenhouse gas emissions include the project's current operations. This project does not proposed an increase to the number of students or pieces of equipment. As shown in the impact section above, the project will not exceed screening thresholds set by the SMAQMD to meet State policies of meeting 2020 or 2030 emission reductions. Project impacts are ***less than significant.***

Climate change is a global problem requiring global solutions. Executive Order S-3-05 requires the State to reach 80% below 1990 levels by the year 2050. This use and equipment has been operating in the County for 45 years and consistently on the subject property. The air quality and greenhouse gas analysis assumes a 15 percent increase in training activities above the baseline conditions that are currently operating at the site (Yorke 2018). With this assumption and application of Basic Construction Emission Control Practices (BCECP), project operations would result in 629 MT CO2e/year above the baseline condition. Combining this conservative analysis with increased regulation on engines and emissions over the next decade provides a very conservative assessment of project emissions. Ultimately it does not conflict with plans, policies or regulations adopted to reduce greenhouse gas emissions because the existing use is considered the baseline emissions for the use and the 15 percent increase results in emissions that are below significance thresholds. Impacts are, therefore, considered ***less than significant.***

8 CULTURAL RESOURCES

INTRODUCTION

Under CEQA, lead agencies must consider the effects of their projects on cultural resources. This chapter describes the potential impacts to cultural resources that could occur as a result of implementation of the proposed OE3 Training Center Project. This chapter also describes the regulatory and environmental setting for cultural resources. Cultural resources include several different types of properties: historic buildings and structures, historic districts, historic sites, culturally sacred sites, prehistoric and historic archaeological sites, and other prehistoric and historic objects and artifacts.

Overall, cultural resources that are known to exist and those that may be present in the project area could include those identified pursuant to California Code of Regulations, Title 14, Section 4852. The following analysis provides an overview of known cultural resources within the project site. Potential unknown resources are also addressed. The analysis also recommends mitigation measures to reduce impacts to cultural resources within the Project area. The following cultural resources surveys, testing programs and evaluations of resources for the project site were prepared by InContext, Cultural Resources Solutions, February 2018.

This chapter is based on and contains portions of the above-listed cultural resources study.

ENVIRONMENTAL SETTING

The project is located in the Sacramento Valley within the Cosumnes River watershed. The area has been subject to past disturbances including gold dredge mining in the 1930s, mining of the dredge tailings for sand and gravel in the 1960s, and more recently with field instruction equipment training (since 2014). The land is also managed with cattle grazing. The land has been severely disturbed in some areas and the past mining activities have likely displaced or destroyed historical, archeological or Tribal resources.

REGULATORY SETTING

FEDERAL

Cultural resources are considered during federal undertakings chiefly under Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended) through one of its implementing regulations, 36 CFR 800 (Protection of Historic Properties), as well as the National Environmental Policy Act (NEPA). Properties of traditional religious and cultural importance to Native Americans are considered under Section 101(d)(6)(A) of

NHPA. Other federal laws pertinent to cultural resources include the Archaeological Data Preservation Act of 1974, the American Indian Religious Freedom Act (AIRFA) of 1978, the Archaeological Resources Protection Act (ARPA) of 1979, the Native American Graves Protection and Repatriation Act (NAGPRA) of 1989, among others. Below is a more detailed description of applicable federal regulations.

Antiquities Act

The federal Antiquities Act of 1906 was created with the intent to protect cultural resources in the United States. The Act prohibits appropriation, excavation, injury, and destruction of "any historic or prehistoric ruin or monument, or any object of antiquity" located on lands owned or controlled by the federal government, without permission of the secretary of the federal department with jurisdiction. Accordingly, the Act provided early framework to protect cultural resources within the United States.

National Environmental Policy Act

NEPA requires that federal agencies assess whether federal actions would result in significant effects on the human environment. The Council on Environmental Quality's (CEQ's) NEPA regulations further stipulate that identification of significant effects should incorporate "the degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register for Historic Places or may cause loss or destruction of significant scientific, cultural, or historic resources" (40 CFR 1508.27[b][8]).

National Historic Preservation Act

Archaeological and built environment resources (buildings and structures) are protected through the National Historic Preservation Act (NHPA of 1966, as amended (16 United States Code [USC] 470f) and it's implementing regulations: Protection of Historic Properties (36 Code of Federal Regulations [CFR] Part 800), the Archaeological and Historic Preservation Act of 1974, and the Archaeological Resources Protection Act of 1979.

Prior to implementing an undertaking (e.g., issuing a federal permit), federal agencies (e.g., U.S. Army Corps of Engineers [USACE]) are required under Section 106 of NHPA to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation (ACHP) and the State Historic Preservation Officer (SHPO) a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the National Register of Historic Places (NRHP). NHPA Section 101(d)(6)(A) allows properties of traditional religious and cultural importance to a tribe to be determined eligible for inclusion in the NRHP. Under the NHPA, a find is significant if it meets the NRHP listing criteria under 36 CFR 60.4, as stated below.

The quality of *significance* in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association and that:

a. Are associated with events that have made a significant contribution to the broad patterns of our history; or

b. Are associated with the lives of persons significant in our past; or

c. Embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

Have yielded, or may be likely to yield, information important in prehistory or history.

STATE

The State of California implements NHPA through its statewide comprehensive cultural resource preservation programs. The California Office of Historic Preservation (OHP), an office of the California Department of Parks and Recreation (DPR), implements the policies of NHPA on a statewide level. OHP also maintains the California Historical Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the State's jurisdiction.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA), as codified in Public Resource Code (PRC) Sections 21000 et seq. and implemented via the State CEQA Guidelines (14 California Code of Regulations [CCR] Section 15000 et seq.), is the principal statute governing the environmental review of projects in the State. CEQA requires a lead agency to determine whether a project may have a significant effect on historical resources. If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2 (a), (b), and (c)). Section 21083.2(g) describes a *unique archaeological resource* as an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

A *historical resource* is a resource listed, or determined to be eligible for listing, in the California Register of Historical Resources (CRHR) (Section 21084.1); a resource

included in a local register of historical resources (Section 15064.5(a)(2)); or any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant (Section 15064.5 (a)(3)). Sacramento County does not currently have a local register.

Public Resources Code (PRC) Section 5024.1, Section 15064.5 of the Guidelines, and Sections 21083.2 and 21084.1 of the Statutes of CEQA were used as the basic guidelines for the cultural resources study. PRC Section 5024.1 requires evaluation of historical resources to determine their eligibility for listing on the CRHR. The purpose of the register is to maintain listings of the State's historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources on the California Register were expressly developed to be in accordance with previously established criteria developed for listing on the National Register of Historic Places (NRHP).

In order to be considered a historical resource, a resource must be at least 50 years old. In addition, the State CEQA Guidelines define a historical resource as follows:

a. A resource listed in the California Register of Historical Resources (CRHR).

b. A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g).

c. 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. The CRHR 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 CRHR criteria are based on National Register of Historic Places (NRHP) criteria (PRC Section 5024.1[b]). Certain resources are determined by CEQA to be automatically included in the CRHR, including California properties formally eligible for or listed in the NRHP. To be eligible for listing in the CRHR as a historical resource, a prehistoric or historic-period resource must be significant at the local, state, and/or federal level under one or more of the following criteria:

    1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

    2. Is associated with the lives of persons important in our past.

    3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

4. Has yielded, or may be likely to yield, information important in prehistory or history (14 CCR Section 4852[b]).

For a resource to be eligible for the CRHR, it must also retain enough integrity to be recognizable as a historical resource and to convey its significance. A resource that does not retain sufficient integrity to meet NRHP criteria may still be eligible for listing in the CRHR.

CEQA requires lead agencies to determine if a proposed project would have a significant effect on important historical resources or unique archaeological resources. If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and State CEQA Guidelines Section 15064.5 would apply. If an archaeological site does not meet the State CEQA Guidelines criteria for a historical resource, then the site may meet the threshold of PRC Section 21083.2 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.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC Section 21083.2 [g]).

The State CEQA Guidelines note that if a resource is neither a unique archaeological resource nor a historical resource, the effects of the project on that resource shall not be considered a significant effect on the environment (14 CCR Section 15064[c][4]).

Madera Oversight Coalition, Inc. v. County of Madera (2011)

In the past, it was common practice for many CEQA practitioners to provide performance-based mitigation for cultural resources, stipulating that further evaluation and treatment of resources would be performed in the future. The 2011 decision from the *Madera Oversight Coalition, Inc. v. County of Madera* (2011 [199 Cal. App.4th 48, 81]) case determined this practice to be unacceptable under CEQA and required evaluation of cultural resources subject to CEQA to be performed at a level sufficient to characterize the resources prior to environmental impact report (EIR) certification (instead of waiting until preconstruction or construction stages of a project). Cultural resources evaluations in this EIR have been completed consistent with the *Madera Oversight* decision.

Discovery Of Human Remains

California law protects Native American burials, skeletal remains and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains (Section 7050.5 of the Health and Safety Code and Public Resources Code 5097.9).

When human remains are discovered, the protocol to be followed is specified in California Health and Safety Code, which states:

> *In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.*

State CEQA Guidelines Section 15064.5, subdivision (e), requires that excavation activities be stopped whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the Native American Heritage Commission (NAHC) must be contacted within 24 hours. At that time, the lead agency must consult with the appropriate Native Americans, if any, as timely identified by the NAHC. Section 15064.5 directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

In addition to the mitigation provisions pertaining to accidental discovery of human remains, the State CEQA Guidelines also require that a lead agency make provisions for the accidental discovery of historical or archaeological resources, generally. Pursuant to Section 15064.5, subdivision (f), these provisions should include “an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place.”

Assembly Bill 52

On September 25, 2014, Governor Brown approved Assembly Bill 52, which requires CEQA lead agencies to begin consultation with California Native American tribe that is

traditionally and culturally affiliated with the geographic area of the proposed project. The bill specifies that a project with an effect that may cause substantial adverse change in the significance of a tribal cultural resource may have a significant effect of the environment. The bill became effective July 1, 2015 and in codified in PRC, §21080.3.1.

LOCAL

SACRAMENTO COUNTY GENERAL PLAN

The Sacramento County General Plan Conservation Element, states under Section VIII, Cultural Resources, the following goal and six objectives:

Promote the inventory, protection and interpretation of the cultural heritage of Sacramento County, including historical and archaeological settings, sites, buildings, features, artifacts and/or areas of ethnic historical, religious or socio-economic importance.

1. Comprehensive knowledge of archeological and historic site locations.

2. Attention and care during project review and construction to ensure that cultural resource sites, either previously known or discovered on the project site, are properly protected with sensitivity to Native American values.

3. Structures with architectural or historical importance preserved to maintain contributing design elements.

4. Known cultural resources protected from vandalism unauthorized excavation, or accidental destruction.

5. Properly stored and classified artifacts for ongoing study.

6. Public awareness and appreciation of both visible and intangible historic and cultural resources.

To implement the primary goal and the objectives, the Conservation Element contains the following policies:

CO-150. Utilize local, state and national resources, such as the NCIC, to assist in determining the need for a cultural resources survey during project review.

CO-155. Native American burial sites encountered during preapproved survey or during construction shall, whenever possible, remain in situ. Excavation and reburial shall occur when in situ preservation is not possible or when the archeological significance of the site merits excavation and recording procedure. On-site reinterment shall have priority. The project developer shall provide the burden of proof that offsite reinterment is the only feasible alternative. Reinterment shall be the responsibility of local tribal representatives.

CO-157. Monitor projects during construction to ensure crews follow proper reporting, safeguards, and procedures.

CO-158. As a condition of approval of discretionary permits, a procedure shall be included to cover the potential discovery of archaeological resources during development or construction.

CO-169. Restrict the circulation of cultural resource location information to prevent potential site vandalism. This information is exempt from the "Freedom of Information Act".

DISCLOSURE OF CULTURAL RESOURCES INFORMATION

Public disclosure of site specific cultural resources information is expressly exempt from the California Public Records Act, Government Code Sections 6250-6270. Furthermore, information obtained during Native American consultation or through consultation with the local and state agencies, including the North Central Information Center (NCIC), should remain confidential and is exempt from public disclosure under Senate Bill 922. Pursuant to General Plan Policy CO-169, Sacramento County staff has signed an “Agreement to Confidentiality” with the NCIC that states that site specific information will not be distributed or released to the public or unauthorized individuals. An authorized individual is a professional archaeologist or historian that qualifies under the Secretary of Interior’s standards to view confidential cultural resources materials.

SIGNIFICANCE CRITERIA

In order for a cultural resource to be considered a “historic property” under NRHP criteria (i.e., eligible for inclusion on the NRHP), it must be demonstrated that the resource possesses *integrity* of location, design, setting, materials, workmanship, feeling and association, and must meet at least one of the following four criteria delineated by Section 106 (Advisory Council on Historic Preservation 2000), as listed in 36 CFR 60.4:

> (a) That are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> (b) That are associated with the lives of persons significant in our past; or
>
> (c) That embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> (d) That have yielded, or may be likely to yield, information important in prehistory or history.

The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing on the NRHP,

enumerated above, and require similar protection to what NHPA Section 106 mandates for historic properties. According to PRC Section 5024.1(c)(1-4), a resource is considered *historically significant* if it meets at least one of the following criteria:

> (1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
>
> (2) Is associated with the lives of persons important in our past;
>
> (3) Embodies the distinctive characteristics of a type, period, region or method of installation, or represents the work of an important creative individual, or possesses high artistic values; or
>
> (4) Has yielded, or may be likely to yield, information important in prehistory or history.

Under CEQA, if an archeological site is not a significant "historical resource" but meets the definition of a "unique archeological resource" as defined in PRC Section 21083.2, then it should be treated in accordance with the provisions of that section. A unique archaeological resource is defined as follows:

> An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:
>
> > (1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
> >
> > (2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
> >
> > (3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Resources that neither meet any of these criteria for listing on the NRHP or CRHR nor qualify as a "unique archaeological resource" under CEQA PRC Section 21083.2 are viewed as not significant. Under CEQA, "A non-unique archaeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects" (PRC Section 21083.2(h)).

Impacts to *significant* cultural resources ("historic properties" under NHPA and "historical resources" under CEQA) that affect the characteristics of any resource that qualify it for the NRHP or adversely alter the significance of a resource listed on or eligible for listing on the CRHR are considered a significant effect on the environment (CEQA guidelines 15065(a)(1)). Impacts to *significant* cultural resources from a proposed Project are thus considered significant if a project physically destroys or damages all or part of a resource, changes the character of the use of the resource or physical feature within the setting of the resource which contribute to its significance or

introduces visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource.

In accordance with Appendix G of the State CEQA Guidelines, a project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Cause a substantial adverse change in the significance of an archaeological resource that is a historical resource as defined in Section 15064.5.
- Cause a substantial adverse change in the significance of a built environment resource that is a historical resource pursuant to Section 15064.5.
- Disturb any human remains, including those interred outside of formal cemeteries.
- Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of 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 the 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.

METHODOLOGY

INFORMATION CENTER RECORD SEARCH

In 2016, the North Central Information Center (NCIC), California Historical Resources Information System conducted a records search for the project site. NCIC staff identified two previous cultural resource surveys within the project site. The first survey, completed in 1998, covered 200 acres and identified two cultural resources. The second survey, completed in 2006, covered the entire 1,500 acre project area and only found one of the previously identified cultural resources.

NATIVE AMERICAN CONSULTATIONS

Pursuant to AB-52, on September 2018, County staff mailed notification letters to the tribes that have formally requested notification. Further, all tribes were sent a copy of the Notice of Preparation for this document in January 2019. No written responses were received during either 30-day review period. County staff followed up with the

Tribes during regularly scheduled meetings to ensure that the letters were received and there were no requests for consultation. The United Auburn Indian Community requested a copy of the cultural report (provided on April 19, 2019). On May 28, 2019, formal written comments were received from the United Auburn Indian Community. Comments received by United Auburn Indian Community focused on monitoring future ground disturbance and appropriate treatment of tribal cultural resources if discovered and requested inclusion of mitigation reflecting these comments.

Even though not a requirement of CEQA, in September 2016, the Native American Heritage Commission responded to the consultant's request for a sacred lands file search and list of Native American contacts pursuant to Section 106 of federal law. The file search was negative and no Native American cultural resources were identified by commission staff in the immediate project area. Commission staff recommended contacting other sources for information on known and documented sites, including a list of Native American contacts.

On October 2016, the consultant mailed a letter to each contact describing the project area and asking for any information or concerns regarding known or suspected sites of Native American significance. Responses from two tribes were received – Ione band of Miwok Indians and Shingle Springs Band of Miwok Indians. Both tribes were provided with the record search results completed thus far; only the Ione Band of Miwok Indians noted that the area is very sensitive for Tribal cultural resources. No further communication has occurred since late 2016.

FIELD ASSESSMENT

InContext staff archaeologists conducted archeological field surveys of the project site in two phases. The first phase focused on the campus facilities and field instruction area in September 2016. The second phase focused on the remaining land, preservation areas, in October 2016.

Similar survey methods were used for both project areas. A reconnaissance-level survey was conducted in and around the dredge tailings. The survey consisted of driving to vantage points within the tailings to document cardinal direction, appearance, and condition. For the non-dredged areas, pedestrian transects every 30 meters were completed. The ground surface visibility was overall poor due to the high vegetation at the time of survey. Cattle tracks and unimproved access roads were noted. No cultural materials were observed on the ground surface for the areas surveyed.

Archeological resources identified during previous surveys and the newly identified historic-period site were documented on DPR523 forms distributed by the California Office of Historic Preservation. No Native American archaeological sites were identified in the project study.

IMPACTS AND ANALYSIS

IMPACT: HISTORICAL RESOURCES

During the prior survey in 2006 by Peak and Associates, two cultural resources were identified – P-34-551 (historic gold dredge tailings) and P-34-552 (20th century refuse pit). The historic dredge tailings did not meet the qualifications necessary to be considered a historical resource for both the NRHP and CRHP. InContext staff continue to support the prior ineligible recommendation as the tailings do not embody distinctive characteristics of a type, period or method of construction, nor do the tailings appear to have the ability to yield information important to history and the integrity of the tailing has degraded over the years by weather and subsequent mining operations. The 20th century refuse pit was not identified during the present survey and is not considered further.

One new historic-period archaeological site (CA-SAC-1227H) was identified on the project site. The site consists of an old homestead site of which only two rows of eucalyptus trees, modern iron cylinder set in concrete, scatter of domestic artifacts (broken glass and ceramics), scatter of structural remains (concrete, brick water pipe), industrial remains, remains of an orchard, windmill, stock pond, and earthen ditch remain. The ownership of the land dates back to the 1880s and the land was farmed or used for cattle grazing. InContext concluded that the site does not appear to be associated with an important historical event or person, nor does it contain any resources that could embody a distinctive characteristic of a type, period or region. Therefore, the site does not appear to be significant under NRHP/CRHR criteria/1, B/2, C/3. However, because it is unknown if there are subsurface archeological deposits that might meet significance criteria under NRHP/CRHR D/4. Based on the history of the site, there is a high likelihood that there are subsurface deposits and therefore, the site is assumed eligible for listing in the HRHP and the CRHR under criterion D/4.

The project will not impact the historic-period archeological site as it is located in the western preserve area. The existing secondary access road bisects the homestead; however, no improvements are proposed for this access. However, there remains the possibility of inadvertently discovering subsurface historic deposits throughout the project site. Mitigation is recommended to ensure that in the event that historical resources are discovered during implementation phases that all work shall be halted until a qualified archaeologist may evaluate the resource encountered; or that a cultural resources survey is completed. With mitigation (Mitigation Measure CR-1), environmental impacts to potentially sensitive historical resources are considered ***less than significant***.

IMPACT: PREHISTORIC RESOURCES

The cultural resource inventories prepared for the majority of the project site did not identify known prehistoric resources. However, this does not preclude the possibility of buried prehistoric archaeological materials or previously undiscovered surface resources within the project area. In addition, a portion of the project area has not been

surveyed and it is unknown whether or not there may be prehistoric resources. CEQA requires that lead agencies protect both known and unknown cultural resources. This is supported by County General Plan Policies CO-157 and 158. Therefore, mitigation is recommended to ensure that in the event that cultural resources are discovered during implementation phases that all work shall be halted until a qualified archaeologist may evaluate the resource encountered; or that a cultural resources survey is completed. With mitigation (Mitigation Measure CR-1), environmental impacts to potentially sensitive cultural resources are considered ***less than significant***.

IMPACT: TRIBAL CULTURAL RESOURCES

The project site is within the Cosumnes River watershed, which is ethnographically defined as predominantly Plains Miwok territory. The Plains Miwok lived along the Cosumnes and Mokelumne River and built their homes on high ground and major villages concentrated along the larger waterways. They utilized the rich resources of the valley to meet both dietary and material needs.

Overlapping the Plains Miwok territory were the Valley Nisenan (Southern Maidu). While the Nisenan has similar dietary and material cultures as the Plains Miwok, their language differed.

As noted above in the AB52 consultation process, only one Tribe –United Auburn Indian Communities responded. The Tribe did not identify a known sacred site or Tribal Cultural Resource; however, as with historic and pre-historic cultural resources, there is always the possibility of uncovering buried resources when ground disturbance is proposed. The Tribe has requested the opportunity to conduct post-ground disturbance surveys within the first five days of any new ground disturbance. This would be limited to “first-pass” ground disturbance such as when a new, 80-acre rotation area for field training is disturbed for the first time, or within the current rotation if the land has not been disturbed by field training activities before. Mitigation (Mitigation Measure CR-2) is included to support this request. Impacts to Tribal Cultural Resources are ***less than significant***.

In addition, the nature of the project (heavy equipment training school) allows for a unique opportunity to incorporate a worker awareness training program developed by the Tribe to be incorporated into the program. This is a training that is requested on individual projects throughout the region and is targeted towards equipment operators and contractors. Therefore, by introducing the worker awareness training during the certification and re-certification stage, the information is more widely distributed to the overall workforce. The County supports this suggestion, but there is no connection to a potentially significant impact under CEQA to recommend a mitigation measure; therefore, this would need to be included as a condition of approval for the Use Permit.

IMPACT: DISTURB HUMAN REMAINS

Section 5097.94 of the Public Resources Code and Section 7050 of the California Health and Safety Code protect Native American burials, skeletal remains and grave goods, regardless of age and provide method and means for the appropriate handling of

such remains. This is supported by County General Plan Policies CO-155. If human remains are encountered, work should halt in that vicinity and the County coroner should be notified immediately. At the same time, an archaeologist should be contacted to evaluate the situation. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of such identification. In the event that a burial is discovered during implementation of the Project, strict adherence to mitigation as outlined in Mitigation Measure CR-1 ensures impact is ***less than significant***.

MITIGATION MEASURES:

CR-1 Cultural Resources Unanticipated Discovery

In the event that human remains are discovered in any location other than a dedicated cemetery, work shall be halted and the County Coroner contacted. For all other unexpected cultural resources discovered during project construction, work shall be halted until a qualified archaeologist may evaluate the resource encountered.

1. Pursuant to Sections 5097.97 and 5097.98 of the State Public Resources Code, and Section 7050.5 of the State Health and Safety Code, if a human bone or bone of unknown origin is found during construction, all work is to stop and the County Coroner and the Office of Planning and Environmental Review shall be immediately notified. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission within 24 hours, and the Native American Heritage Commission shall identify the person or persons it believes to be the most likely descendent from the deceased Native American. The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposition of, with appropriate dignity, the human remains and any associated grave goods.

2. In the event of an inadvertent discovery of cultural resources (excluding human remains) during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained at the Applicant's expense to evaluate the significance of the find. If it is determined due to the types of deposits discovered that a Native American monitor is required, the Guidelines for Monitors/Consultants of Native American Cultural, Religious, and Burial Sites as established by the Native American Heritage Commission shall be followed, and the monitor shall be retained at the Applicant's expense.

    a. Work cannot continue within the 100-foot radius of the discovery site until the archaeologist and/or tribal monitor conducts sufficient research and data collection to make a determination that the resource is either 1) not cultural in origin; or 2) not potentially eligible for listing on the National Register of Historic Places or California Register of Historical Resources.

b. If a potentially-eligible resource is encountered, then the archaeologist and/or tribal monitor, Planning and Environmental Review staff, and project proponent shall arrange for either 1) total avoidance of the resource, if possible; or 2) test excavations or total data recovery as mitigation. The determination shall be formally documented in writing and submitted to the County Environmental Coordinator as verification that the provisions of CEQA for managing unanticipated discoveries have been met.

CR-2 Native American Tribal Cultural Resources Monitor

A minimum of seven days prior to beginning “first-pass” earthwork or other first-time soil disturbance activities (construction of the education campus or for each new 80-acre field instruction area that has not been previously disturbed), the applicant shall notify the County Environmental Coordinator of the proposed earthwork start-date, in order to provide the County with time to contact the United Auburn Indian Community (UAIC). A UAIC tribal representative shall be invited to inspect the project site, including any soil piles, trenches, or other disturbed areas, within the first five days of any new ground breaking activity. During this inspection, a site meeting of construction personnel shall also be held in order to afford the tribal representative the opportunity to provide tribal cultural resources awareness information. If Tribal Resources are discovered, refer to Mitigation Measure CR-1 on how to proceed.

9 HYDROLOGY AND WATER QUALITY

INTRODUCTION

This chapter addresses the effects of water use, grading and development consistent with the project relative to hydrologic characteristics of the site and vicinity. There are many policies and regulations that protect our water from pollution and our communities from flooding. An overview of pertinent regulation is important to include in this analysis; however, to prepare a concise report, the following documents are hereby incorporated by reference, and are available for review online and/or at 827 7th Street, Room 225, Sacramento:

- Sacramento County Improvement Standards
- Sacramento County Volume 2 Hydrology Standards
- Sacramento County Floodplain Management Ordinance
- Sacramento County Code Section 16.44 (Land Grading and Erosion Control)

HYDROLOGIC SETTING

The project is located within the southeastern portion of Sacramento County, outside of the Urban Services Boundary. Areas outside of the Urban Services Boundary are not subject to the County's water quality permit. Within the project boundaries, there are small ephemeral streams, storage ponds, stormwater quality ponds and seasonal wetlands and vernal pools. The property is located within two watersheds – Cosumnes and Laguna Creek (south). The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map panels applicable to the project are 06067C0358J (7/19/2018); 06067C0359J (7/19/2018); 06067C0400J (7/19/2018); 06067C0375J (7/19/2018). No federal floodplains are identified within or adjacent to the project site. However, the whole region is considered a local flood zone. Reference Plate HY-1 and Plate HY-2 for floodplain and watershed maps.

The project is located within the Cosumnes groundwater basin which extends from the Cosumnes River south to the County line and west to the convergence of the Cosumnes and Mokelumne Rivers.

Plate HY-1: Floodplain Map

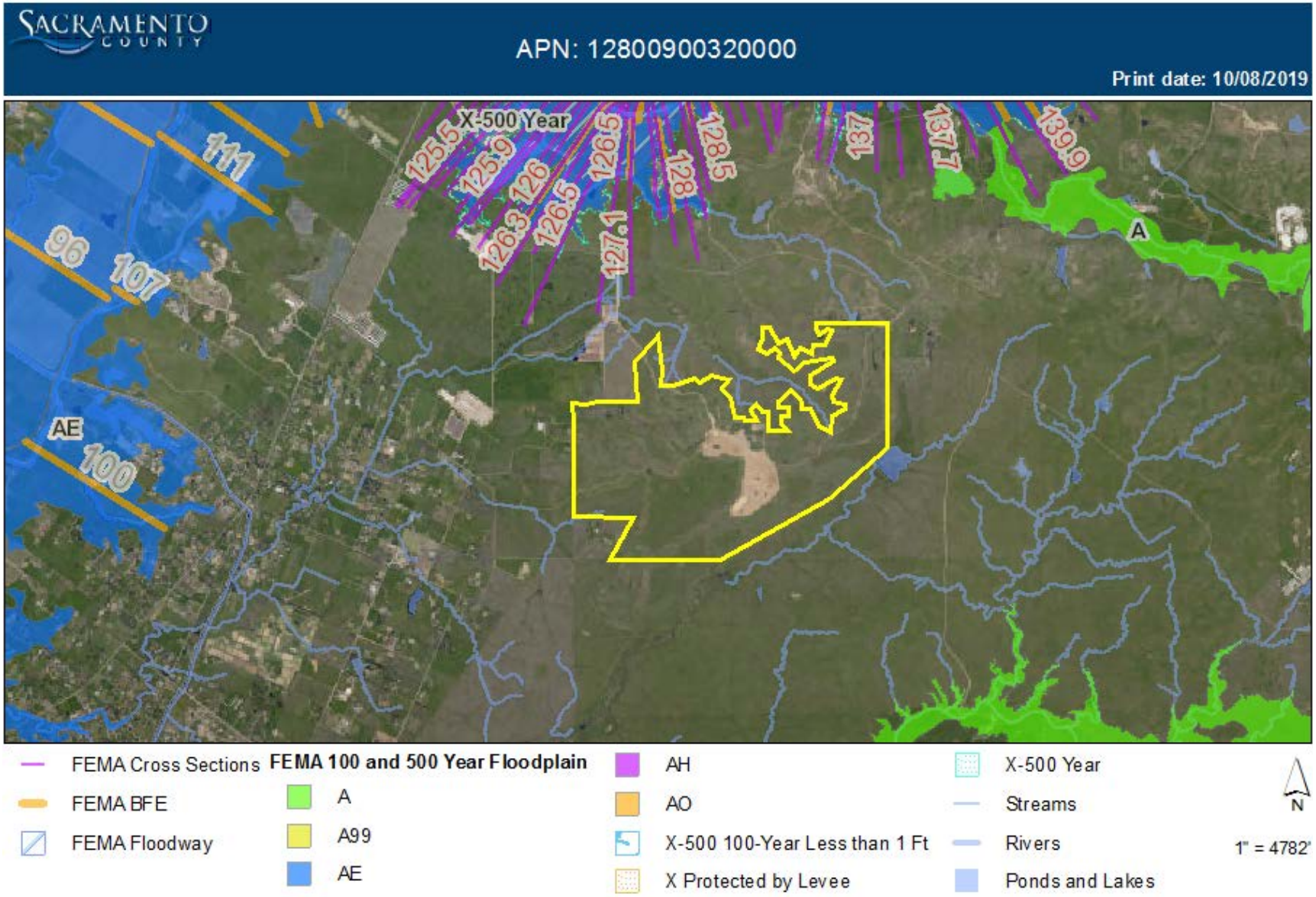
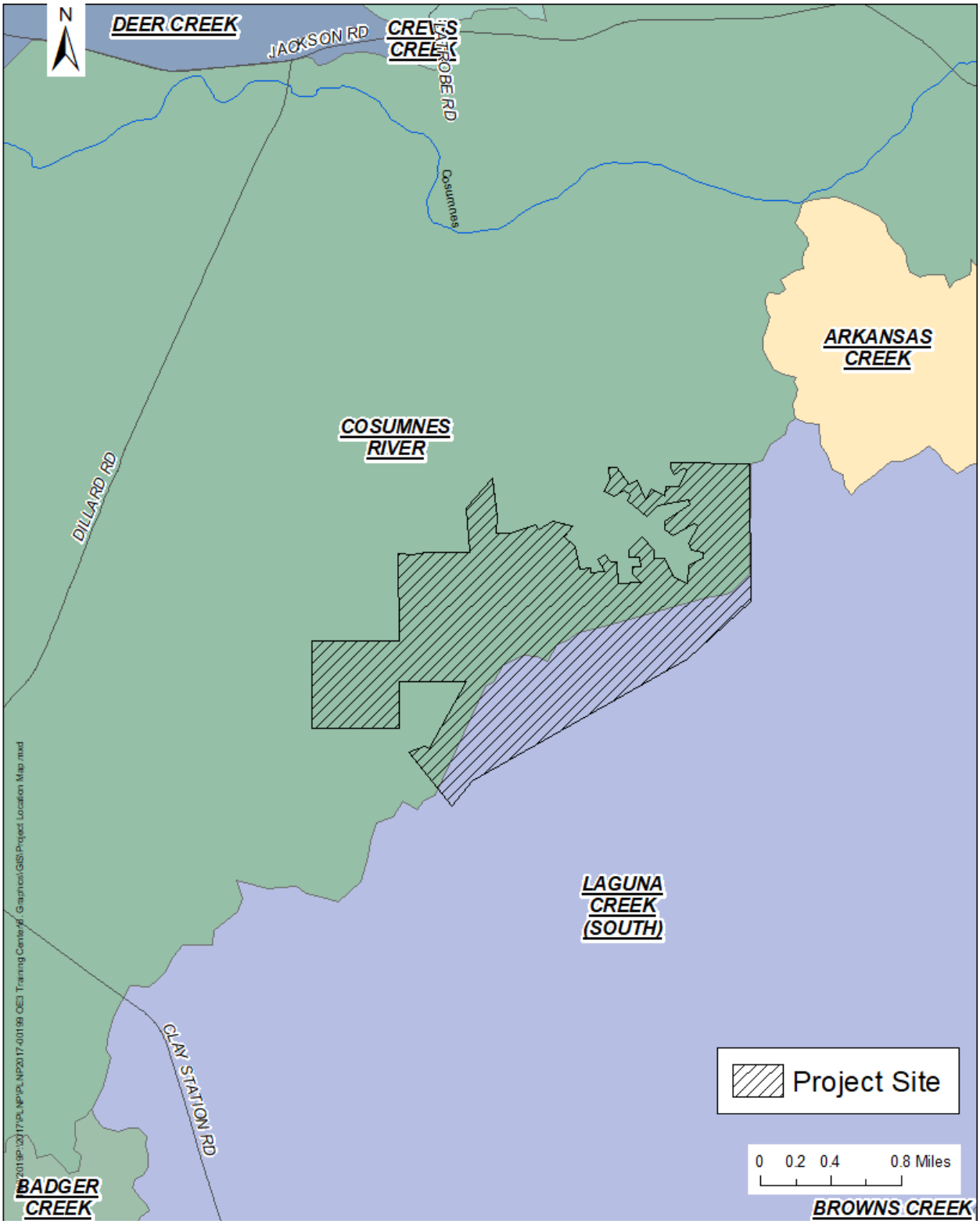


Plate HY-2: Watershed Map



REGULATORY SETTING

SACRAMENTO COUNTY GENERAL PLAN

The General Plan includes multiple Elements containing policies relevant to flooding and water quality: the Agriculture Element, Circulation Element, Conservation Element, and Safety Element. There are many policies within each Element, but the policies of greatest relevance to the project are included below.

CO-26. Protect areas susceptible to erosion, natural water bodies, and natural drainage systems.

CO-28. Comply with other water quality regulations and NPDES permits as they apply to County projects or activities, such as the State's Construction General Permit and Aquatic Pesticides Permit.

WATER QUALITY LEGISLATION

Government agencies regulate potential impacts to water quality in order to comply with legislative acts such as: the Clean Water Act (CWA), the Porter-Cologne Water Quality Act (Porter-Cologne), the Rivers and Harbors Act, and the California Environmental Quality Act (CEQA). The Clean Water Act contributes to the dramatic improvement of surface water bodies in the United States. The Rivers and Harbors Act prevents obstructions to navigation, including dumping of trash and sewage. CEQA prevents avoidable damage to water quality by requiring changes in projects through the use of alternatives or mitigation measures [PRC §15002(a)(3)]. Coordinated efforts by the following agencies protect water supplies from degradation:

- County of Sacramento
- Sacramento Area Flood Control Agency (SAFCA)
- California Department of Fish and Wildlife (CDFW)
- State Water Resources Control Board (State Water Board)
- Regional Water Quality Control Board (Regional Water Board)
- State Lands Commission
- U.S. Coast Guard (Coast Guard)
- National Park Service (NPS)
- State Department of Water Resources Reclamation Board
- U.S. Army Corps of Engineers (USACE)

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

FEMA maintains and updates the National Flood Insurance Program maps, called the Federal Insurance Rate Maps (FIRM), that define areas of federal flood hazard. In

Sacramento County and elsewhere the floodplains are identified based on U.S. Army Corps of Engineers (USACE) studies. FIRM maps denote the location of the federal 100-year flood area, 500-year flood area, and the Base Flood Elevation. In a 100-year floodplain, there is a 1% chance of flooding in a given year, and in a 500-year floodplain, there is a 0.2% chance of flooding in a given year. If an area is within a 100-year floodplain, flood insurance is required by most mortgage companies. FEMA is also responsible for the accreditation of levee systems (certification is by the USACE).

Not all 100-year floodplains are mapped by FEMA, because the focus of the FEMA FIRM maps is to provide information for insurance programs. Areas that have very little development that would be at risk from flooding, such as rural areas and wilderness areas, typically are not mapped. Areas not mapped by FEMA, or areas where there are additional site-specific constraints that change the shape of the floodplain, are referred to as local floodplains in this EIR.

Sacramento County Department of Water Resources

As discussed above, not all floodplains are mapped by FEMA. Though not mapped by FEMA, many local 100-year floodplains have been identified by the Sacramento County Department of Water Resources (County DWR). Local floodplains in the County are typically mapped either in response to an area having flooding problems, or in response to a request by a property owner to make modifications to their parcel. In such circumstances, County DWR staff investigate the property and either decide if there is sufficient existing information to determine the floodplain elevation on the property or that a drainage study is required before a determination can be made. Further, pursuant to Senate Bill-5, County DWR has amended the General Plan and Zoning Code requiring a 200-year Urban Level of Flood Protection. The Urban Level of Flood Protection (ULOP) applies if the area is urban or urbanizing; is in a contributing basin of more than 10 square miles; and has a potential flood depth of more than three feet. Floodplains, whether local or FEMA, are regulated by the provisions of the Sacramento County Floodplain Management Ordinance, Improvement Standards, and Local Floodplain Management Plan.

Clean Water Act

The Clean Water Act (CWA) is the federal regulation covering surface water quality – it does not address either groundwater or water quantity. Surface waters protected by the CWA must either be navigable or hydrologically connected to a navigable water. The provisions of the CWA are administered and regulated primarily by the Environmental Protection Agency (EPA), the California EPA (Cal EPA), the USACE, and the State and Regional Water Boards. Under the “umbrella” of Cal EPA, the State and Regional Water Boards are responsible for administration of the National Pollutant Discharge Elimination System program, which deals with stormwater pollution from construction, industrial areas, and municipal areas. The USACE is responsible for issuance of the CWA Section 404 permit, which deals with the discharge of dredged or fill material in a surface water, and the State and Regional Water Boards are responsible for issuance of the CWA Section 401 permit, which covers the same activity. Section 303(d) of the

Clean Water Act (CWA) also requires States to identify waters that do not meet water quality standards, and to develop plans to address polluted water bodies on the 303(d) list (called Total Maximum Daily Load plans, or TMDLs).

Stormwater Pollution and Erosion Control

Section 402 of the CWA established the National Pollutant Discharge Elimination System (NPDES) permit program to prohibit the unauthorized discharge of pollutants from a point source to U.S. waters. The County of Sacramento has obtained a Municipal Stormwater NPDES permit from the Central Valley Regional Water Quality Control Board under the requirements of the Clean Water Act, to reduce pollutants found in urban stormwater runoff to the maximum extent practicable. The County complies with this permit by developing and enforcing ordinances and requirements to reduce the discharge of sediments and other pollutants in runoff from areas within the County.

Sacramento County must verify compliance with permit requirements by monitoring effluent, maintaining records, and filing periodic reports. A provision of the NPDES permit is the requirement that Sacramento County develop a Construction Site Management Program. The Construction Site Management Program is intended to help protect the water quality of surface waters by minimizing the amount of sediment runoff from a construction site. This is accomplished by enforcement of the existing County Land Grading and Erosion Control Ordinance.

The County has established a Stormwater Ordinance (Sacramento County Code 15.12). The Stormwater Ordinance prohibits the discharge of unauthorized non-stormwater to the County's stormwater conveyance system and local creeks. It applies to all private and public projects in the County, regardless of size or land use type. In addition, Sacramento County Code 16.44 (Land Grading and Erosion Control) requires private construction sites disturbing one or more acres or moving 350 cubic yards or more of earthen material to obtain a grading permit. To obtain a grading permit, project proponents must prepare and submit for approval an Erosion and Sediment Control Plan describing erosion and sediment control best management practices (BMPs) that will be implemented during construction to prevent sediment from leaving the site and entering the County's storm drain system or local receiving waters. Construction projects not subject to SCC 16.44 are subject to the Stormwater Ordinance (SCC 15.12) described above.

In addition to complying with the County's ordinances and requirements, construction sites disturbing one or more acres are required to comply with the State's General Stormwater Permit for Construction Activities. The Construction General Permit is issued by the State Water Resources Control Board (http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml) and enforced by the Regional Water Board. Coverage is obtained by submitting a Notice of Intent (NOI) to the State Water Board prior to construction. The General Permit requires preparation and implementation of a site-specific Stormwater Pollution Prevention Plan (SWPPP) that must be kept on site at all times during construction for review.

Applicable projects applying for a County grading permit must show proof that a NOI has been filed and must submit a copy of the SWPPP. Although the County has no enforcement authority related to the Construction General Permit, the County is required by its Municipal Stormwater Permit (Permit #CAS082597) to verify that the SWPPP program includes six minimum components (public education and outreach on storm water impacts, public involvement participation, illicit discharge detection and elimination, construction site storm water runoff control, post-construction storm water management in new development and redevelopment, and pollution prevention/good housekeeping for municipal operations).

PORTER-COLOGNE WATER QUALITY ACT

Porter-Cologne is enacted as part of the California Water Code, and is intended to protect the quality of waters within the State. Porter-Cologne covers many of the same issues as the Federal Clean Water Act (see below), but is specific to the needs and objectives of the State. Waters protected by the Clean Water Act must be navigable or hydrologically connected to navigable waters, whereas Porter-Cologne protects non-navigable, or "isolated", waters. The State Water Resources Control Board (State Water Board) and the Regional Water Quality Control Boards (Regional Water Board) are responsible for the coordination and control of water quality protection efforts related to Porter-Cologne.

STREAMBED ALTERATION AGREEMENT

Section 1602 of the Fish and Game Code requires applicants to notify CDFW before beginning a project if the project will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake or use materials from a streambed. Notification is generally required for any project that will take place in the vicinity of a river, stream, or lake. The recommendations of CDFW may include steps to protect water quality.

SUSTAINABLE GROUNDWATER MANAGEMENT ACT

The Sustainable Groundwater Management Act (SGMA) was signed into law in 2014. SGMA tasks California DWR to draft a Strategic Plan for its Sustainable Groundwater Management (SGM) Program. DWR's SGM Program will implement new and expanded responsibilities identifies in the 2014 SGMA. Some of these expanded responsibilities include: (1) developing regulation to revise groundwater basin boundaries; (2) adopting regulations for evaluation and implementing Groundwater Sustainability Plans (GSPs) and coordination agreements; (3) identifying basins subject to critical conditions of overdraft; (4) identifying water available for groundwater replenishment; and (5) publishing best management practices for the sustainable management of groundwater.

It is too soon to understand how the objectives of a GSP will be implemented through land use practices, but it is known that January 1, 2015 will be used as a base line for sustainability in managing activities related to groundwater levels such that there is no adverse impact to identified beneficial uses, which includes chronic overdraft, reduction

in groundwater, seawater intrusion, impacts to water equality, land subsidence, and impacts on beneficial use of surface water.

SIGNIFICANCE CRITERIA

According to the CEQA Guidelines, impacts may be significant if the Project results in one of the following:

1. A substantial alteration of the existing drainage pattern of the project 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:
    a. result in substantial soil erosion or siltation on- or off-site.
    b. Substantial increase to the rate or amount of surface runoff in a manner that would result in flooding on- or off-site.
    c. Impede or redirect flood flows.
    d. Creation or contribution of runoff water that would exceed the capacity of existing or planned stormwater drainage systems.

2. A violation of any water quality standard or waste discharge requirement or otherwise substantially degrade surface or groundwater quality.

3. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

4. Conflict with or obstruct implementation of a sustainable groundwater management plan.

5. Creation or contribution of runoff water that would provide substantial additional sources of polluted runoff. Changes in water quality would be considered substantial if the Project will not comply with the County/State NPDES Program, or there is a net increase in any other pollution source associated with an impaired waterway (under Section 303(d) of the Clean Water Act).

6. In flood hazard, tsunami, or seiche zones, risk release of pollutant due to project inundation.

7. Develop in an area that is subject to 200-year urban levels of flood protection (ULOP).

The project is located within a rural area of Sacramento County and there are no engineered stormwater drainage systems. All stormwater drainage is carried through small ephemeral drainages, creeks and eventually the rivers.

The nearest impaired waterway is the Cosumnes River, approximately 2 miles downstream. Cosumnes River is listed on the impaired waterway 303(d) list for invasive species, *E.coli*, and sediment toxicity.

IMPACTS AND ANALYSIS

The following analyses is based in part from information contained in the Hydrology and Water Quality Analysis prepared for the subject project by EMKO Environmental, Inc., dated February 26, 2018 (included as Appendix HY-1).

IMPACT: SUBSTANTIALLY ALTER DRAINAGE PATTERNS THAT WOULD RESULT IN SUBSTANTIAL SOIL EROSION OR SILTATION ON- OR OFF-SITE

Approximately 90 acres of the project site is currently disturbed for field instruction. The proposed project includes construction of the education campus and field instruction over 450 acres which could result in a substantial amount of soil erosion or siltation on- or off-site.

EDUCATION CAMPUS

Access roads already exist to the site, including the campus area, the field training areas, and the groundwater wells. Construction of the campus facilities would increase the runoff from the campus area, but all drainage would be maintained internally within the project site by routing runoff to a retention basin near the campus. The stormwater conveyance structures (e.g., ditches, pipes, culverts) and related stormwater control measures (e.g., berms, silt fences, sediment ponds, revegetation, hay bales) would be designed to prevent erosion, gullying, sedimentation and contamination caused by the runoff from a 20-year, 1-hour storm event. Retention basin sizing and conveyance structures will also need to be designed consistent with Sacramento County requirements (e.g., Sacramento City/County Drainage Manual [Sacramento County and City of Sacramento 2006]). In addition, implementation of standard best management practices (e.g. SWPPP) will ensure soil erosion impacts are ***less than significant***.

FIELD INSTRUCTION AREAS

The proposed field instruction area encompasses a total of 425 acres; however, only 80 acres will be actively disturbed at one time. The 80-acre rotation area will need to have a detention basin to trap sediment-laden water during storm events so that the project will not result in siltation off-site. Prior to every field instruction rotation, a grading permit will need to be obtained from the County to verify current waste dischargers identification number (WDID) information, best management practices and proposed size and placement of detention basin. In addition, a SWPPP shall be prepared for each new field instruction area. Required review and approval by the County will ensure off-site siltation impacts are ***less than significant***.

INDIRECT EFFECTS DUE TO PROPOSED GROUND DISTURBANCE

In addition to the direct conversion of waters and wetland resources within the development area (see the discussion in Chapter 6 Biological Resources), ground disturbance and other activities within the development area would create the potential for indirect impacts to these communities outside of and adjacent to the development area.

The introduction of pollutants to surface water discharges could result in indirect impacts to aquatic features outside of the development area and are considered a potentially significant impact under CEQA. However, the project would be subject to water quality control provisions to minimize the potential for introduction of pollutants, including fuels, oils, and other materials used on-site that, if not properly handled, could be introduced to soils or stormwater.

The project is required under existing laws to implement a spill prevention control and countermeasure plan (SPCC Plan) that would provide for fuels storage and containment, refueling procedures, vehicle maintenance, and emergency cleanup procedures in the event of an accidental spill. The project is also required to prepare and implement a construction and industrial stormwater pollution prevention plan (SWPPP), for ground disturbing activities on-site. The SWPPP would identify potential sources of sediment and other pollutants that could affect the quality of stormwater discharges from disturbed areas and would identify site-specific measures (known as best management practices [BMPs]) that would eliminate or minimize sediment and other pollutants in stormwater discharges from disturbed areas. Incorporation of these water quality protection measures would minimize the potential for water quality impacts to sensitive habitats.

Project grading within the area for campus development and field instruction areas, would alter surface stormwater runoff within and from these areas. Elimination or reduction in surface stormwater flows to aquatic features outside of the development could adversely affect these features. This analysis estimates that “indirect wetlands impacts” would consist of up to 0.33 acre of seasonal swale, 4.06 acres of seasonal wetland, 0.45 acres of vernal pool, and 2.07 acre of stockponds. Although these impacts would occur over time and there may be opportunities to minimize reductions in the areas affected by reduced surface water flows, this indirect impact would be potentially significant. Preparation and implementation of site specific SWPPP which requires that the project minimize potential effects on surface stormwater flows to aquatic features outside the development area would reduce this impact to ***less than significant***.

IMPACT: SUBSTANTIALLY ALTER DRAINAGE PATTERNS IN A MANNER WHICH WOULD IMPEDE OR REDIRECT FLOOD FLOWS OR, SUBSTANTIALLY INCREASE THE RATE OR VOLUME OF RUNOFF THAT WOULD RESULT IN FLOODING

The project is within the Cosumnes River and Laguna Creek watersheds, but not within the 100-year flood hazard area. A watershed is an area of land in which all of the

surface water drains to the same waterway. This area of the County has not been studied to accurately identify the boundaries of the watersheds and a general assumption is mapped in the County geographic mapper. The County Department of Water Resources has reviewed the project and has submitted conditions of approval requesting that a drainage study be submitted along with improvement plan submittal so that calculations for the proposed drainage reservoir and associated outlet to ensure that it is adequately sized to provide 100-year flood protection. The drainage reservoir is an existing feature and there is plenty of room within the site if the feature needs to be modified to provide the necessary level of protection. Therefore, site specific drainage analysis is not required at this time.

New campus facilities constructed as part of the project would drain to an on-site retention basin and, therefore, would not increase the rate or amount of surface runoff from the project site. The project would not alter the course of any stream or river. The project would not alter existing drainage patterns and would not increase the rate or amount of surface runoff. Therefore, the project would not impede or redirect flood flows. .

The total disturbed acreage for the field training area would not increase beyond that which currently exists. Although simulated construction activities may be conducted in areas other than those that are currently disturbed, new areas would not be used unless existing disturbed areas of equivalent acreage are restored and reclaimed.

Within the field instruction area, the hydrology should be self-contained (primarily to capture sedimentation and stormwater run-off). The 80-acre disturbed area will require a detention basin which will need to be sized and placed so that all stormwater run-off does not leave the area. The County DWR is requesting a condition to review the grading plans for all new rotation areas to ensure that the operation will maintain existing hydrology. Department of Water Resources staff (D. Mezentsev) did comment that there is no immediate flood risk to persons or structures off-site since the nearest receptor is ½ mile away (pers comm. 6/20/2019).

Given the rotational nature of the field instruction area, mitigation similar to the conditions requested by DWR is recommended to ensure that impacts as a result of increased rate or volume of runoff would not result in flooding on- or off-site; impacts are ***less than significant***.

IMPACT: VIOLATE WATER QUALITY STANDARDS OR WASTE DISCHARGE REQUIREMENTS OR SUBSTANTIALLY DEGRADE SURFACE OR GROUND WATER QUALITY

The project involves the operation of an education campus including maintenance and repair buildings, storage of fuels and lubricants, and disturbance of 80 acres of soil for heavy equipment training operations. The campus building will require a septic system to treat wastewater effluent. The system will be required to meet the standards set forth by the Sacramento County Environmental Management District with regard to the size and soil permeability. Given the relatively porous nature of the shallow soils, as

evidence by the presence of dredge tailings and course aggregate deposits, the soils would readily absorb the effluent. The presence of clayey geologic material to depths of 120 to 150 feet below ground surface (EMKO Environmental, Inc. 2018: Section 3.3.2) beneath the coarser material indicates that groundwater quality would not be degraded by the wastewater effluent. The County's permitting and oversight process for private septic systems will ensure that groundwater quality will not be degraded and impacts are ***less than significant***.

Part of the training program requires students to learn how to perform basic repair to the heavy equipment, and immediate repair of training equipment will occur on-site. Repairs require the use and storage of solvents and lubricants. In addition, the heavy equipment will be re-fueled on-site, requiring above ground storage tanks of diesel fuel and gasoline. A temporary diesel fuel tank to support field instruction equipment is currently on-site. Accidental release of these substances has the potential to occur and impact water quality standards. In order to prevent accidental discharges, the project is required by State and federal laws and regulations to develop programs to contain and manage the use of these substances. The programs will likely include measures that require fueling and maintenance happen over impervious surfaces with a secondary containment, providing spill kits on the vehicles, preparing a Spill Prevention Control and Countermeasures plan, and preparing a hazardous material business plan.

OE3 is already preforming these activities at the current project site and at the main Rancho Murieta campus location (equipment maintenance building). OE3 has these plans and programs in place and are monitored by the State. The programs will have to be updated to reflect the new location.

Lastly, there will be an active 80 acre field training area for heavy equipment. During the summer this area will have to be watered regularly for dust suppression and there is the possibility of run-off, if the water application is uneven. During the winter, the soil in the disturbed area could be mobilized by rain events. Although this area will rotate over time, activities and runoff in field instruction areas will continue to mirror those currently taking place at the site. Currently, and planned for future 80-acre field instruction areas, the disturbed area is graded and watered in such a manner that all run-off flows to a central sedimentation basin. The applicant will have to develop a Stormwater Pollution Prevention Plan specific for each new 80-acre field instruction area. The specific design and application of best management practices will be unique for each field instruction area, but are expected to be largely similar to the best requirements of the SWPPP covering current field instruction activities. The features may include but are not limited to:

1. Equipment and vehicle parking storage areas will be graded to direct stormwater to an on-site containment pond to prevent stormwater runoff from entering surface water or groundwater.

2. Mobile vehicles will be maintained and repaired in a covered shop or on paved surfaces. Such areas will be designed to collect pollutants. All pollutants will then be disposed of in accordance with local, state, and federal regulations. Inspection

and maintenance programs will be established to ensure that vehicles are operating properly and leaks are prevented to the extent feasible.

3. Mobile equipment used for field instruction will be maintained and fueled within the current phase. All pollutants will be managed in accordance with local, state, and federal regulations to prevent pollutants from entering surface water or groundwater in accordance with a site-specific SPCC plan.

4. Vehicles, other than mobile equipment used for field instruction, will be fueled on concrete pads next to the containment facilities for aboveground fuel tanks. The fueling areas will be designed to handle stormwater in accordance with local, state, and federal regulations. Diesel fuel will be stored in aboveground tanks located within a containment facility or facilities.

5. Wastes from the campus facility will be stored in designated containers and containment area and/or within the shop and disposed of in accordance with local, state, and federal regulations.

6. All containers containing potentially hazardous materials will be stored in containment areas engineered in accordance with the SPCC plan.

7. An inspection and maintenance program will be established to ensure that equipment is operating properly and leaks are prevented to the extent feasible.

Compliance with existing local, State, and federal regulations ensure that the project will not violate water quality standards or waste discharge requirements. Impacts are ***less than significant***.

IMPACT: SUBSTANTIALLY DECREASE GROUNDWATER SUPPLIES OR INTERFERE SUBSTANTIALLY WITH GROUNDWATER RECHARGE, OR CONFLICT OR OBSTRUCT WITH A GROUNDWATER MANAGEMENT PLAN

The project is within the Sloughhouse Resource Conservation District which filed to be a Groundwater Sustainability Agency (GSA) in April 2016. The Sloughhouse Resource Conservation District is within the Cosumnes groundwater basin and is categorized and a medium prioritization. GSAs within medium priority basins do not need to file their Groundwater Sustainability Plan until 2022. This has not occurred; therefore, it is speculative to know what rules or regulations may be adopted for the purpose of achieving groundwater sustainability goals.

The project is not connected to and will not connect to a public water system and all water supplied to the project is groundwater. EMKO Environmental, Inc. prepared a Hydrology and Water Quality Analysis for the subject project (dated February 26, 2018) as well as a project-specific Water Supply Assessment (dated February 22, 2018). The analysis used information prepared for the Mining Use Permit approved for the project site in 2008, which details the well production and assumed consumption. There are three wells within the boundary of the project site and currently only one well is used to

supply water to the project site. The existing field training activities use approximately 25 acre feet/year of groundwater, which is less than five percent of the water use that could have occurred under the Mining Use Permit. Current uses result in a drawdown at adjacent properties of less than one foot. The proposed project will require approximately 57 acre feet/year, or less that 11 percent of the water use that could have occurred under the Mining Use Permit. Using the draw-down calculations prepared for the prior Mining Use Permit and extrapolating the proposed project's draw-down based on the predicted water use, the total draw-down at neighboring wells would be 1.5 feet/year.

Impermeable surfaces in the campus area (e.g., parking areas, walkways, buildings) would reduce percolation of rainfall in those locations, which could reduce groundwater recharge. However, hardpan layers are present in the area (WRA 2018), as evidenced by the perched water system in the dredge tailings, along with 120 to 150 feet of clay between the ground surface and the first sand aquifer zones. Thus, it is likely that there is very little groundwater recharge that occurs at the project site. Despite these soil conditions, runoff from the campus area would be directed to an on-site retention basin used to store water for dust control. Percolation from this pond would offset any lost recharge that may have resulted from impermeable surfaces in the campus area.

The project will incrementally add to local groundwater consumption within the Cosumnes groundwater basin, but not to a level that will significantly decrease groundwater supply. The impervious surfaces introduced at the site will direct stormwater runoff to a water retention basin. Percolation from the on-site ponds will assist in groundwater recharge. Impacts associated with groundwater management are ***less than significant***.

IMPACT: CREATE OR CONTRIBUTE TO RUNOFF WATER THAT WOULD EXCEED THE CAPACITY OF STORMWATER DRAINAGE SYSTEMS OR PROVIDE SUBSTANTIAL ADDITIONAL SOURCES OF POLLUTED RUNOFF.

The project is located within a rural area of Sacramento County and there are no engineered stormwater drainage systems. All stormwater drainage is carried through small ephemeral drainages, creeks and eventually the rivers. The nearest impaired waterway is the Cosumnes River, approximately two miles downstream. Cosumnes River is listed on the impaired waterway 303(d) list for invasive species, *E.coli*, and sediment toxicity.

The project is not proposing a significant amount of impervious surfaces and all stormwater runoff would be maintained onsite by grading the site to drain towards retention basins proposed within the campus area and in each training area. If retention basins are not sized correctly they may overflow and drain offsite. As a result this impact is potentially significant. Implementation of mitigation measure HY-1 will ensure that these basins are sized correctly, ensuring that stormwater runoff will not drain offsite. As a result, ***impacts are less than significant***.

IMPACT: INCREASE POTENTIAL RELEASE OF POLLUTANTS DUE FLOOD HAZARD, TSUNAMIS, OR SEICHES OR DEVELOP WITHIN AN AREA SUBJECT TO 200-YEAR URBAN LEVELS OF FLOOD PROTECTION

As shown in Plate HY-1, the project is not located within an area that is subject to the 100-year flood hazard area or the 200-year urban levels of flood protection, nor is it subject to inundation due to a tsunami or seiche. There is no impact as it relates to flooding.

Seiches are standing waves resulting from oscillations in enclosed bodies of water, typically generated by seismic shaking associated with an earthquake. The only enclosed body of water that would be present at the project site is the retention basin used to store water for dust control and to receive runoff from the campus and field instruction areas. A study of seiches caused by the 1964 magnitude 9.2 earthquake in Alaska (the largest earthquake ever recorded in North America) indicates that if 2–3 feet of freeboard is maintained in the retention basin, there would be no impact under CEQA (McGarr and Vorhis 1968, cited in EMKO Environmental, Inc. 2018a). Implementation of mitigation measure HY-1 will ensure that sufficient freeboard is maintained.

The project site is located over 65 miles from San Francisco Bay and almost 90 miles from the Pacific Ocean. Therefore, there is no potential for a tsunami generated in the Pacific Ocean to adversely affect the project site.

The project site and surrounding areas are relatively flat and are not located downslope from any potential mudflow sources. Therefore, the project would have no impact with respect to risk from mudflows.

Based on the above discussion, the project would not result in any increased potential for inundation by seiche, tsunami, or mudflow, resulting in ***less than significant impacts***.

MITIGATION MEASURES

HY-1 Local Floodplain

Prior to improvement plan submittal, at every rotation of the grading area and prior to obtaining building permits any structures provide a drainage study pursuant to current Hydrology Standards, Floodplain Management Ordinance, and Improvement Standards for review and approval by the Sacramento County Department of Water Resources (County DWR). The drainage study shall as a minimum:

a. Include calculations for all required cross culverts along the proposed access road, and show no adverse impacts to the existing floodplain.
b. Identify and/or design a controlled outlet/spillway for the existing “drainage reservoir” as shown on the preliminary utility plan.
c. Determine the 100-year water surface elevation at the identified or designed outlet/spill way of the “drainage reservoir.”

d. Identify existing water shed boundaries and maintain existing hydrology.

e. Maintain a minimum freeboard of two (2) feet in any retention basin or as required by existing local and State regulations.

10 NOISE

INTRODUCTION

This project is a Use Permit request for a private school within an agricultural area of unincorporated Sacramento County. In addition to the Use Permit, the applicant is requesting Williamson Act agreement cancellation on a portion of the current agreement and to re-enter into a new agreement. Noise impacts largely revolve around the use of mobile equipment for field instruction activities and construction of the campus. A Noise Impact Analysis prepared by Bollard Acoustical Consultants is provided in Appendix NO-1. This chapter addresses potential physical environmental impacts related to noise.

ENVIRONMENTAL NOISE SETTING

The majority of the project site is undeveloped open space and currently leased and used for grazing. OE3 currently conducts the field instruction for using mobile equipment within approximately 90 acres of the central portion of the project site. Field instruction activities currently conducted on the project site involve operating equipment in simulated construction activities, such as building road bed sections and building pads/foundations. As a result, the ambient noise environment within the overall project area is primarily defined by noise emanating from on-site heavy equipment training at the existing field instruction areas, and to a lesser extent by distant traffic noise from local rural roadways west of the project site. The nearest identified noise-sensitive land uses to the proposed project site are three rural residences, identified as receivers 1–3 in Plate NO-1.

To generally quantify the existing ambient noise environment within the project area, long-term (continuous) ambient noise level measurements were conducted at three (3) locations on the project site from Friday, August 12 to Sunday, August 14, 2016. The noise monitoring locations are shown in Plate NO-1. Measurement Sites 1 and 2 were selected to generally represent ambient noise levels at the nearest receivers, while Site 3 was selected to represent existing heavy equipment activities at the existing field instruction areas.

The ambient noise measurement results are summarized in Table NO-1 with the detailed results provided in tabular and graphical formats in the Noise Impact Analysis.

Plate NO-1: Noise Measurement Locations

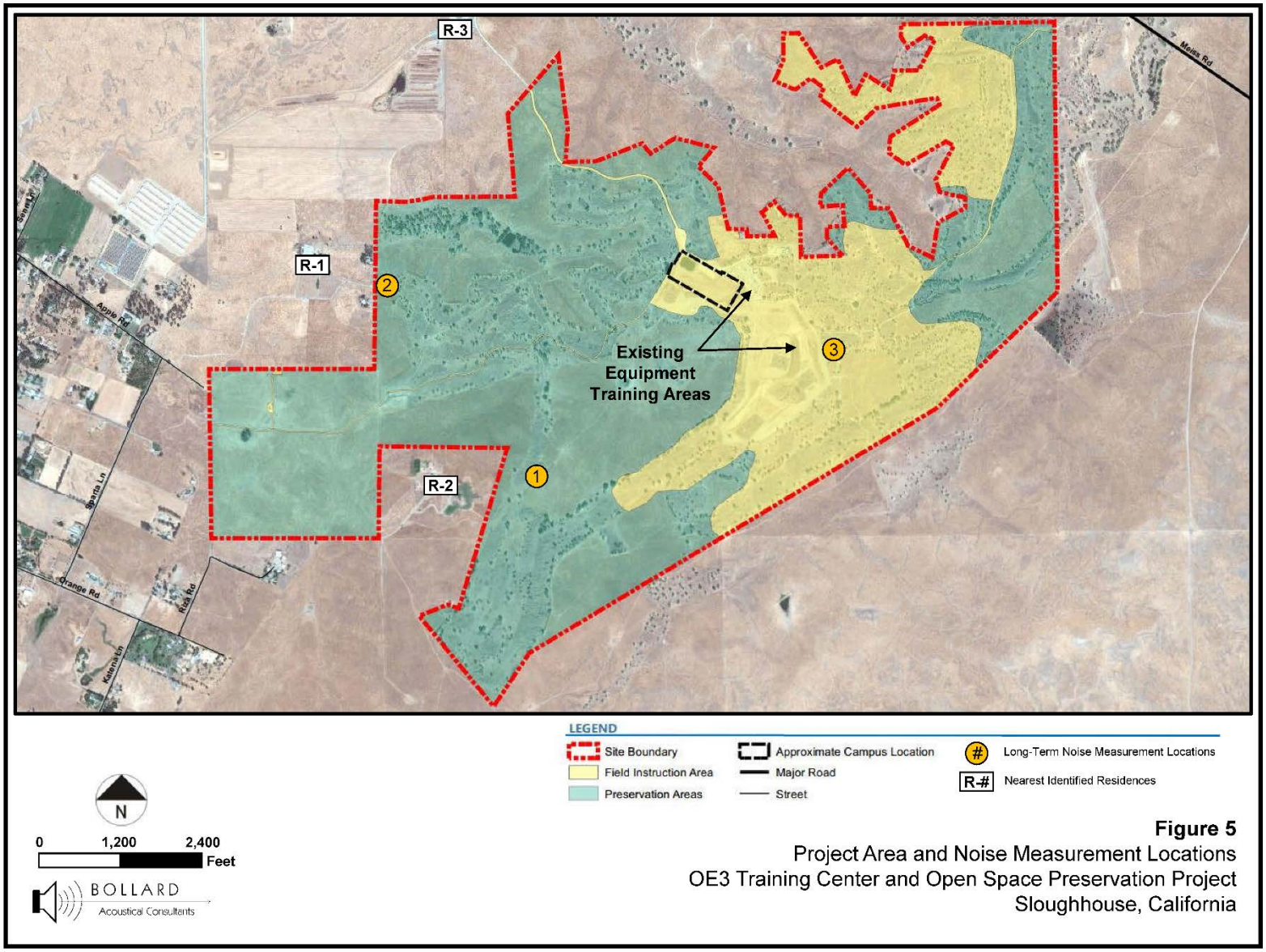


Figure 5
Project Area and Noise Measurement Locations
OE3 Training Center and Open Space Preservation Project
Sloughhouse, California

Table NO-1: Daytime Ambient Noise Measurements

Site[2]	Date	L_{50}[3]	L_{max}[3]	L_{dn}
Site 1 – Southern end of project area, approximately 1,100 feet from receiver	8/12/16	32-45 (38)	49-64 (56)	54
	8/13/16	31-47 (37)	47-66 (56)	56
	8/14/16	31-46 (38)	46-65 (53)	54
Site 2 – Western end of project area, approximately 500 feet from receiver	8/12/16	33-47 (39)	49-60 (55)	44
	8/13/16	32-45 (39)	48-61 (55)	46
	8/14/16	32-48 (40)	47-69 (55)	46
Site 3 – Eastern end of project area, near existing field instruction areas	8/12/16	40-58 (48)	50-82 (65)	53
	8/13/16	48-55 (52)	64-75 (69)	58
	8/14/16	48-54 (52)	55-74 (65)	60

Notes: L_{50} = sound level exceeded by 50% of a specific period of time; L_{max} = maximum sound level (the maximum instantaneous sound level during a specific period); L_{dn} = day/night average sound level.

[1] Detailed noise measurement results are provided in Noise Impact Analysis Appendices B and C.

[2] Measurement site locations are shown on Plate NO-1.

[3] Because proposed project activities would reportedly not occur during nighttime periods, the hourly maximum and median noise levels shown in this table are provided for daytime hours only.

Source: Bollard Acoustical Consultants, Inc. (2018)

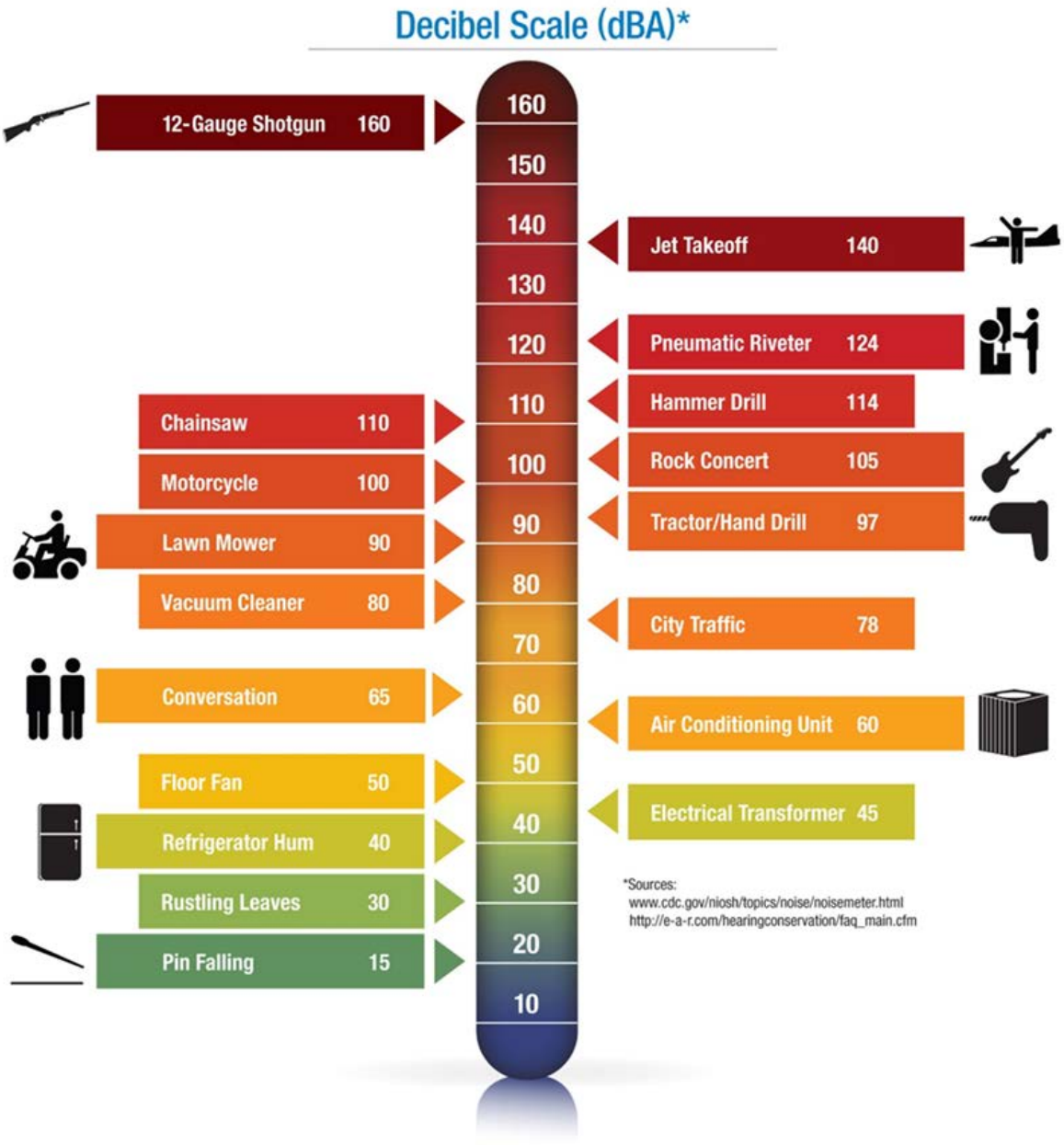
ACOUSTICAL FUNDAMENTALS AND TERMINOLOGY

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard, and are designated as sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, or Hertz (Hz). Definitions of acoustical terminology are shown in Noise Impact Analysis. Plate NO-2 shows common noise levels associated with various sources.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals of pressure) as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in decibel levels correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by filtering the frequency response of a sound level meter by means of the standardized A-weighting network. As a result, all sound levels reported in this study are in terms of A-weighted decibels.

Plate NO-2: Decibel Scale of Common Activities



Noise Attenuation

Stationary “point” sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of approximately 6+ dBA per doubling of distance from the source, depending upon environmental conditions (i.e., atmospheric conditions and noise barriers, either vegetative or manufactured, etc.). Widely distributed noises, such as a large industrial facility, spread over many acres or a street with moving vehicles (a “line” source), would typically attenuate at a lower rate, approximately 4 to 6 dBA per doubling distance from the source (also dependent upon environmental conditions) (Caltrans, 2013). Noise from large construction sites (with heavy equipment moving dirt and trucks entering and exiting the site daily) would have characteristics of both “point” and “line” sources, so attenuation would generally range between 4.5 and 7.5 dBA per doubling of distance.

Vibration

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, while vibration is usually associated with transmission through the ground or structures. As with noise, vibration consists of an amplitude and frequency.

Vibration can be described in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities (inches/second). Standards pertaining to perception as well as damage to structures have been developed for vibration in terms of peak particle velocity. According to the Transportation and Construction Vibration Guidance Manual (Caltrans, April 2020), operation of construction equipment and construction techniques generate ground vibration. Traffic traveling on roadways can also be a source of such vibration. At high enough amplitudes, ground vibration has the potential to damage structures and/or cause cosmetic damage (e.g., crack plaster). Ground vibration can also be a source of annoyance to individuals who live or work close to vibration-generating activities. However, traffic, including heavy trucks traveling on a highway, rarely generates vibration amplitudes high enough to cause structural or cosmetic damage. In all cases, vibration amplitudes will decrease with increasing distance. The maximum rate or velocity of particle movement is the commonly accepted descriptor of the vibration “strength.”

Regulatory Setting

Sacramento County General Plan

Sacramento County General Plan was adopted in February 1997 (amended in 2011) and serves as the overall guiding policy document for land use, development, and environmental quality for the County. Sacramento County Noise Element of the General Plan contains noise standards for transportation as well as non-transportation

or “stationary” noise sources. The non-transportation criteria, shown in Table NO-2, would apply to noise generated from the on-site heavy equipment operations and construction activities of the proposed project. The transportation criteria, shown in Table NO-3, would apply to noise generated from off-site noise traffic noise levels as a result of the project. Satisfaction of the County’s exterior noise level standards would ensure compliance with interior noise level standards. This is because the interior noise level standards are 15–20 dB lower than the exterior noise level standards, and typical noise reduction for residential structures is 25 dB with windows in the closed position. Pursuant to footnote 3 of Table NO-2, noise level standards are applied with windows in the closed position. Therefore, provided exterior noise levels do not exceed the Table NO-2 standards outside the nearest residences, noise levels inside the residences would be below the interior noise level standards shown in Table NO-2. As a result, this analysis focuses on the more restrictive exterior noise level standards.

Table NO-2: Non-Transportation Noise Standards
Sacramento County General Plan Noise Element

	Outdoor Area[2]		Interior[3]	
Receiving Land Use	Daytime (7 a.m. – 10 p.m.)	Nighttime (10 p.m. – 7 a.m.)	Day & Night	Notes
All Residential	55 / 75	50 / 70	35 / 55	
Transient Lodging	55 / 75	--	35 / 55	4
Hospitals & Nursing Homes	55 / 75	--	35 / 55	5,6
Theaters & Auditoriums	--	--	30 / 50	6
Churches, Meeting Halls Schools, Libraries, etc.	55 / 75	--	35 / 60	6
Office Buildings	60 / 75	--	45 / 65	6
Commercial Buildings	--	--	45 / 65	6
Playgrounds, Parks, etc.	65 / 75	--	--	6
Industry	60 / 80	--	50 / 70	6

Notes: L_{50} = sound level exceeded by 50% of a specific period of time; L_{max} = maximum sound level (the maximum instantaneous sound level during a specific period); Leq = equivalent or energy-averaged noise level.

1 The Table 2 standards shall be reduced by 5 dB for sounds consisting primarily of speech or music, and for recurring impulsive sounds. If the existing ambient noise level exceeds the standards of Table 1, then the noise level standards shall be increased at 5 dB increments to encompass the ambient.

2 Sensitive areas are defined in the acoustic terminology section.

3 Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.

4 Outdoor activity areas of transient lodging facilities are not commonly used during nighttime hours.

5 Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.

6 The outdoor activity areas of these uses (if any), are not typically used during nighttime hours.

7 Where median (L_{50}) noise level data is not available for a particular noise source, average (L_{eq}) values may be substituted for the standards of this table provided the noise source in question operates for at least 30 minutes of an hour. If the source in question operates less than 30 minutes per hour, then the maximum noise level standards shown would apply.

Source: Sacramento County General Plan Noise Element (Amended 2011)

Table NO-3: Noise Standards for New Uses Affected by Traffic and Railroad Noise Sacramento County General Plan Noise Element

Land Use	Sensitive Outdoor Areas[a] dBA, L_{dn}/CNEL	Sensitive Interior Areas[b] dBA, L_{dn}/CNEL
Residential	65[e]	45
Transient lodging	65[c,e]	45
Hospitals, nursing homes	65[c,d,e]	45
Theaters, auditoriums, music halls	--	35[c]
Churches, meeting halls	65[c]	40
Office buildings	65[c]	45
School, libraries, museums	65[c]	40
Commercial Buildings	--	50[c]
Playgrounds, neighborhood parks	70	--
Industry	65[c]	50

Notes: CNEL = community noise equivalent level; dBA = A-weighted decibel; L_{dn} = day/night average sound level; L_{max} = maximum sound level (the maximum instantaneous sound level during a specific period).

[a] Sensitive areas are defined as in the acoustic terminology section.

[b] Interior noise level standards are applied within noise-sensitive areas of the various land uses, with windows and doors in the closed positions.

[c] Where there are no sensitive exterior spaces proposed for these use, only the interior noise level standard shall apply.

[d] Hospitals are often noise-generating uses. The exterior noise level standards for hospitals are applicable only at clearly identified areas designated for outdoor relaxation by either hospital staff or patients.

[e] If this use is affected by railroad noise, a maximum (L_{max}) noise level standard of 70 dB shall be applied to all sleeping rooms to reduce the potential for sleep disturbance during nighttime train passages.

Source: Sacramento County General Plan (2011)

SACRAMENTO COUNTY NOISE ORDINANCE

Section 6.68 of the Sacramento County Code (noise control) establishes standards for acceptable noise exposure at residential uses. Because the County's Noise Ordinance standards are consistent with the County's General Plan Noise Element standards, compliance with Table NO-2 and Table NO-3 standards would ensure that both the Noise Element and Noise Ordinance standards of Sacramento County have been satisfied.

Regarding project construction activities, the Sacramento County Code Section 6.68.090 (Exemptions), states that the following activities shall be exempted from the provisions of the Noise Ordinance:

e. Noise sources associated with construction, repair, remodeling, demolition, paving or grading of any real property, provided said activities do not take place between the hours of eight p.m. and six a.m. on weekdays and Friday

commencing at eight p.m. through and including seven a.m. on Saturday; Saturdays commencing at eight p.m. through and including seven a.m. on the next following Sunday and on each Sunday after the hour of eight p.m. Provided, however, when an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to continue work after eight p.m. and to operate machinery and equipment necessary until completion of the specific work in progress can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardships for the contractor or owner.

CRITERIA FOR ACCEPTABLE VIBRATION EXPOSURE

Sacramento County has no adopted vibration standards. As a result, Caltrans-recommended criteria are applied for this project, as described below. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. The Caltrans publication, *Transportation and Construction Vibration Guidance Manual*, April 2020, provides guidelines for acceptable vibration limits for transportation and construction projects in terms of the induced peak particle velocity (PPV). Those standards are reproduced below in Table NO-4.

Table NO-4: Vibration Criteria

	Maximum Peak Particle Velocity(ppv) (inches/second)	
Human Response	**Transient Sources[1]**	**Continuous or Frequent Intermittent Sources[2]**
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Notes:
1 Transient sources create a single isolated vibration event, such as blasting or drop balls.
2 Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Current Caltrans research illustrates that there are different thresholds of perception for different types of vibration sources. Section XI(b) of Appendix G of the CEQA guidelines requires that a project result in exposure of persons to, or generation of, *excessive* groundborne vibration levels or groundborne noise levels, for the finding of a significant impact. The CEQA guidelines specifically mention “excessive” vibration, rather than just perceptible vibration.

The general range at which vibration becomes distinctly to strongly perceptible to people is noted in Table NO-1 as being 0.04–0.10 in/sec ppv for continuous or frequent sources. Similarly, damage to structures is considered likely at 0.25 in-sec ppv.

SIGNIFICANCE CRITERIA

The CEQA Guidelines define "significant" as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objectives of historic or aesthetic significance." Based on the CEQA Guidelines, a noise impact is significant if the project results in any of the following:

1. 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.

2. Generation of excessive groundborne vibration or groundborne noise levels.

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.

Regarding criteria 3, the Rancho Murieta Airport, which is the nearest public airport, is located approximately three miles northeast of the project site. Further, no private airstrips were identified in the project vicinity. The project would not expose people residing or working in the project area to excessive noise levels; therefore, an evaluation of aircraft noise impacts associated with such facilities is not warranted for this project.

METHODOLOGY

To determine noise exposure to the closest surrounding receivers from future field instruction activities, long-term (continuous) ambient data was collected on August 12–14, 2016. As described above, ambient noise data was collected at three locations, two near surrounding residential receivers (Sites 1 and 2) and one near existing field instruction activities (Site 3). Because the future field instruction activities would utilize similar equipment in numbers similar to the existing field instruction training operations, the noise level data collected at measurement Site 3 is considered to be suitable for use in forecasting future noise levels associated with field instruction activities in the expanded areas of the site. This is likely a conservative assumption as future technological advancements in heavy equipment design and construction will likely result in lower noise emissions.

The noise analysis generate three types of calculations:

> **L_{50} (Lifetime):** Given the size of the field instruction areas and active movement of mobile equipment, field instruction activities and associated noise emissions would be spread over a large area, similar to existing field instruction activities. Where the nearest sensitive receptors are located a considerable distance away,

it is common practice when conducting noise analyses to project average noise from the project using the effective "noise center" of that area. Some equipment would be closer and some farther from the nearest receivers than the center of the training area; thus, this calculation provides accurate data for *average noise levels* generated by field Instruction activities. To calculate average noise levels generated by future field instruction activities at the closest existing receivers over the lifetime of the Project, the Site 3 daytime ambient noise level data were projected from the center of the total 435-acre field instruction area. The results of this calculation are presented in Table NO-5 as L_{50} (lifetime).

L_{50} (Five Years): However, because field instruction activities would be limited to 80-acre phase areas during successive five-year periods, each receiver would experience a higher average noise level when the 80-acre phase area is closer. To calculate average noise levels at a receiver during those five-year periods in which the 80-acre phase area is located nearest that receiver, the data for Site 3 daytime ambient noise levels were conservatively projected from the center of the nearest possible configuration of 80 acres within the total 425-acre field instruction area. The results of this calculation are presented in Table NO-5 as L_{50} (five years).

L_{max}: Maximum noise levels at each receiver would also occur during those five years in which the 80-acre phase area nearest that receiver. Unlike the predicted average noise levels, however, maximum noise levels would be generated by the equipment located at the closest position to the nearest residences, not the noise center of the 80-acre training area. Therefore, to calculate maximum noise levels at each receiver, the Site 3 daytime ambient noise level data were conservatively projected from the nearest point within the overall 425-acre field instruction area to each of the three nearest residences. The results of this calculation are presented in Table NO-5 as L_{max}.

For each of the above three calculations (L_{50} (lifetime), L_{50} (five years), and L_{max}), a 6 dB decrease per doubling of distance from the noise source was applied to generate approximate noise levels at the receivers.

In addition, a 5 dB decrease was applied as a conservative estimate of the shielding provided by intervening topography. This estimate is considered conservative because once intervening topography intercepts line of sight between a noise source and a sensitive receptor, a 5 dB reduction in noise levels results. However, the actual noise attenuation provided by intervening topography would likely be greater than 5 dB because of intervening topography created by the existing dredge rows and established vegetation and trees blocking line of sight.

Applying the methodology described above, Table NO-5 shows the predicted noise levels of future field instruction activities at the three nearest receivers to the project site. Table NO-6 shows the predicted increase in ambient noise levels from field instruction and construction activities at the three nearest receivers.

Table NO-5: Predicted Field Instruction Area Noise Levels at Nearest Receivers

Receiver[1]	Distance to Residences			Predicted Noise Levels at Nearest Receivers (dBA)[3]		
	Center of Lifetime 435-Acre Field Instruction Area (feet)[2]	Center of Nearest 80-Acre (5-year) Field Instruction Area (feet)[2]	Nearest Point within Overall 435-Acre Field Instruction Area (feet)[2]	L_{50} (Lifetime)	L_{50} (5-year)	L_{max}
1	8,100	6,200	5,400	18	21	39
2	6,500	4,000	2,800	20	25	45
3	7,500	5,600	5,000	19	22	40

Notes: L_{50} (lifetime) = sound level exceeded by 50% of a specific period of time, average noise levels generated by field instruction activities from center of 435-acre site; L_{50} (5-year) = sound level exceeded by 50% of a specific period of time, average noise levels generated by field instruction activities from center of closest 80-acre site; L_{max} = maximum sound level (the maximum instantaneous sound level closest to receptor).

1 Receiver locations are shown on Plate NO-1.

2 Distances measured from the center of the centrally located larger field instruction area to nearest receivers.

3 Predicted levels are based on ambient noise level data, a sound attenuation rate of 6 dB per doubling of distance, accounting for 5 dB shielding provided by intervening topography. L_{50} values were computed from the center of the instruction area, whereas L_{max} values were computed form the nearest instruction area to the existing receivers.

Source: Bollard Acoustical Consultants, Inc. (2018)

Table NO-6: Existing and Project Long-Term Ambient Noise Levels[1]

Receiver Location[2]	Ambient Noise Level (L_{50}/L_{max})		
	Existing	***Existing + Project[3]***	***Difference***
1	38/56	39/57	2/4
2	39/55	43/59	4/4
3[4]	50/65	51/65	1/0
Meiss Road[5]	45	46	1

Notes: L_{50} = sound level exceeded by 50% of a specific period of time; L_{max} = maximum sound level (the maximum instantaneous sound level).

[1] Detailed noise measurement results are provided in Appendix NO-1.

[2] Measurement site locations are shown on Plate NO-1.

[3] Because proposed project activities would reportedly not occur during nighttime periods, the hourly maximum and median noise levels shown in this table are provided for daytime hours only.

[4] The nearest identified receiver to the north of the project area (receiver 3) is near a composting facility using heavy equipment operations. In addition, the receiver approximately 7,000 feet from the center of the existing OE3 field instruction area (the farthest of the three locations). Because the existing receiver is exposed to elevated ambient noise levels from heavy equipment operations, and based on the measured ambient noise levels at Site 2, which is closer to the existing field instruction area (6,100 feet), it is reasonable to conclude that noise levels from the proposed project at the receiver to the north (receiver 3) would not result in a substantial permanent increase in ambient noise levels.

[5] The greatest predicted noise level predicted from project-related off-site traffic would be on Meiss Road.

Source: Bollard Acoustical Consultants, Inc. in 2018

IMPACTS AND ANALYSIS

IMPACT: GENERATE SUBSTANTIAL TEMPORARY OR PERMANENT INCREASE IN AMBIENT NOISE LEVELS IN EXCESS OF STANDARDS IN THE GENERAL PLAN OR NOISE ORDINANCE

The project would not result in the exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan (i.e., the County General Plan) or noise ordinances, or applicable standards of other agencies.

As discussed in Regulatory Setting above the Noise Element of the County General Plan contains noise standards for transportation and non-transportation or “stationary” noise sources. The non-transportation criteria, shown in Table NO-2 above, would apply to noise generated from the on-site heavy equipment operations and construction activities of the proposed project. The transportation criteria, shown in Table NO-3 above, would apply to noise generated from off-site noise traffic noise levels as a result of the project.

Satisfaction of the County’s exterior noise level standards would ensure compliance with interior noise level standards. This is because the interior noise level standards are 15–20 decibels (dB) lower than the exterior noise level standards, and typical noise reduction for residential structures is 25 dB with windows in the closed position. Pursuant to footnote 3 of Table NO-2, noise level standards are applied with windows in

the closed position. Therefore, provided exterior noise levels do not exceed the Table NO- 2 standards outside the nearest residences, noise levels inside the residences would be below the interior noise level standards shown in Table NO-2. As a result, this analysis focuses on the more restrictive exterior noise level standards.

Section 6.68 of the Sacramento County Code (Noise Control) establishes standards for acceptable noise exposure at residential uses. Because the County's Noise Ordinance standards are consistent with the County General Plan's Noise Element standards, compliance with Table NO-2 and NO-3 standards would ensure that both the Noise Element and Noise Ordinance standards of Sacramento County have been satisfied.

Regarding project construction activities, the Sacramento County Code Section 6.68.090 (Exemptions), states that the following activities shall be exempted from the provisions of the Noise Ordinance:

> e. Noise sources associated with construction, repair, remodeling, demolition, paving or grading of any real property, provided said activities do not take place between the hours of eight p.m. and six a.m. on weekdays and Friday commencing at eight p.m. through and including seven a.m. on Saturday; Saturdays commencing at eight p.m. through and including seven a.m. on the next following Sunday and on each Sunday after the hour of eight p.m. Provided, however, when an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to continue work after eight p.m. and to operate machinery and equipment necessary until completion of the specific work in progress can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardships for the contractor or owner.

The project's predicted noise levels, and their potential to exceed applicable County General Plan or County Noise Ordinance standards, are discussed below by the source of the project-related noise (i.e., campus construction, campus operations, and field instruction) (BAC 2018).

- **Campus construction:** The average noise levels generated during construction activities are expected to be 49–50 dB, L_{max}. Because construction activities would be limited to the daytime hours cited in the criteria section, such activities would be exempt from the provisions of the County's Noise Ordinance (per Sacramento County Code Section 6.68.090 [Exemptions]) (see the section titled "Sacramento County Noise Ordinance"). In addition, noise generated during campus construction activities would be well below measured existing ambient noise levels at the nearest receivers. This impact would be ***less than significant***.

- **Campus operations:** Campus operations would include activities related to use of the classrooms, maintenance and repair, and administration buildings. In

addition, the 2-week training course typically includes one day of classroom activity and the 8-week training course includes five days. Noise from classroom-related activities would be inconsequential in comparison to noise from the field instruction activities; thus, activities related to this area do not require further analysis and this impact would be ***less than significant***.

- **Field instruction:** Mobile equipment noise levels generated during field instruction would satisfy Sacramento County's 55/75 decibel (dB) L_{50} (sound level exceeded by 50 percent of a specific period of time)/L_{max} (the maximum instantaneous sound level) daytime noise level standards. As shown in Table NO-5 above, the highest predicted noise level at the nearest receiver (Receiver 2) would be 25 L_{50}/45 L_{max}. In addition, as shown in Table NO-6, field instruction noise levels would only increase ambient noise levels at the nearest receiver (Receiver 2) by 4 db. This impact would be ***less than significant***.

- **Off-site traffic:** Off-site traffic, including student and employee vehicle trips, would not exceed the County General Plan exterior noise level standard of 65 dB day/night average sound level (L_{dn}) community noise equivalent level (CNEL) for residential uses. The highest predicted noise level from project-related off-site traffic would be 38 dB L_{dn} CNEL on Meiss Road, which is less than all existing measured ambient noise levels. This impact would be ***less than significant***.

IMPACT: GENERATION OF EXCESSIVE GROUNDBORNE VIBRATION OR NOISE LEVELS

This project would not result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels. To quantify reference vibration levels generated by heavy equipment typically used in the proposed field instruction activities the analysis uses vibration measurement results from similar pieces equipment conducting similar activities (Table NO-7).

Table NO-7: Reference Heavy Equipment Vibration Levels

Vibration Source	Measurement Distance (Feet)	Peak Particle Velocity (inch/second)
Bulldozer	35	0.0209
Front-Loaders	100	0.0047
Haul Truck	100	0.0062
Water Truck	100	0.0070
Rock Drill	50	0.0187

Source: Bollard Acoustical Consultants, Inc. (2018)

For continuous or frequent intermittent vibration sources, a vibration level of 0.25 inch per second peak particle velocity (in/sec ppv) is considered a criterion that would protect against significant architectural or structural damage. The general range at which vibration becomes distinct to strongly perceptible is 0.04–0.10 in/sec ppv. Vibration measurement results shown in Table NO-7 indicate that heavy equipment-generated vibration levels would be below the thresholds for annoyance and damage to structures even at the very close measurement locations of 35–100 feet from the operating equipment. As a result, given the considerable setback from the proposed operations relative to the nearest receivers (receivers 1–3 in Plate NO-1, "Noise Measurement Locations"), project vibration levels generated by heavy earthmoving equipment are expected to be well below the threshold of perception. Therefore, the exposure of persons to or generation of excessive groundborne vibration or noise levels as a result of implementing the proposed project would be ***less than significant***.

11 SUMMARY OF IMPACTS AND THEIR DISPOSITION

POTENTIALLY SIGNIFICANT EFFECTS WHICH COULD BE AVOIDED WITH IMPLEMENTATION OF MITIGATION MEASURES

BIOLOGICAL RESOURCES

The project site contains several different types of habitat including vernal pool/seasonal wetlands, cottonwood woodlands, and Valley grasslands. The project will construct a 25-acre education campus in the area already disturbed by field instruction and will expand the existing field instruction area to 425-acres. The proposed field expansion area contains dredge tailings which have created the unique cottonwood woodlands and vernal pool/seasonal wetland habitat. These habitats provide suitable habitat for several endangered, threatened or special status species.

The project will directly impact 4.40 acres of waters of the U.S. including vernal pools and seasonal wetlands. The aquatic habitat is suitable habitat for vernal pool crustaceans, amphibians, and rare plants. Along with aquatic resources, approximately 40 acres of cottonwood woodlands will be removed. This habitat contains mature trees which are suitable habitat for nesting raptors and other migratory bird species, and there are elderberry shrubs located within this habitat which may be habitat for Valley Elderberry Longhorn Beetle.

Potentially significant impacts to habitat and special status species can be reduced to less than significant levels through implementation of recommended mitigation measures. Mitigation measures consist of pre-construction surveys for special status species, obtaining federal and State agency permits, and in-kind compensation for loss of cottonwood woodland habitat.

CULTURAL RESOURCES

The project contains three recorded resources within the study area, and the proposed project would not disturb these resources. However, there remains a potential to encounter buried or as yet undiscovered historical resources, archaeological resources, tribal cultural resources, or human remains during land clearing, construction and field instruction work. Mitigation is included to ensure that such resources are treated appropriately if discovered.

HYDROLOGY AND WATER QUALITY

The project is located in eastern Sacramento County outside of the Urban Development Area. This area of the County is rural and scattered with residences. The local watersheds and floodplains have not been clearly identified due to the rural area and low risk of flooding to persons or property. However, County Department of Water Resources staff noted that while a drainage study is not required at this time, prior to the disturbance of the 80-acre field equipment training area, DWR will need to review the

proposed grading plan to ensure that all hydrology is self-contained to capture sedimentation and stormwater runoff. Since local hydrology information is not known at this time, impacts are potentially significant. Potentially significant impacts can be reduced to less than significant with implementation of recommended mitigation ensuring that the project will not increase the rate or volume of runoff.

EFFECTS FOUND NOT TO BE SIGNIFICANT

Impacts associated with aesthetics, air quality, agricultural resources, climate change, noise, population and housing, public utilities and services, and traffic and circulation, are considered less than significant.

IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines Section 15126.2 requires the evaluation of significant irreversible environmental changes, stating, “uses of nonrenewable resources during the initial and continued phases of a proposed project may be irreversible since a large commitment of these resources makes removal or nonuse thereafter unlikely.” This section of the EIR evaluates whether the project would result in the irretrievable commitment of resources, or would cause irreversible changes in the environment.

Construction of various project elements will require irretrievable commitments of a variety of finite resources, including aggregate, petrochemicals, and metals. These commitments will occur both as direct and indirect impacts of the project. Direct impacts include the consumption of fuel by the construction fleet and equipment, the consumption of fuel as part of the vehicle and equipment usage during project operation, and the use of metals and aggregates in the construction of the buildings. Indirect impacts include the consumption of fuel and other resources to produce the materials used in construction.

GROWTH INDUCEMENT

The CEQA Guidelines identify several ways in which a project could have growth-inducing impacts (CEQA Guidelines Section 15126.2(d)). Growth inducement is when a project fosters economic or population growth, either directly or indirectly, in the surrounding environment. For instance, a project may generate significant additional employment opportunities, which in turn generates the construction of additional housing to bring additional residents near this employment center. Indirect growth inducement is also possible, if a project removes obstacles to population growth, or encourages and facilitates other activities that are beyond those proposed as part of the project, for example, altering the availability of developable land and precedent-setting actions related to local government growth policies.

Growth inducement may not be considered necessarily detrimental, beneficial, or of significance under CEQA. Induced growth is considered a significant impact only if it

directly or indirectly affects the ability of agencies to provide needed public services or if it can be demonstrated that the potential growth, in some other way, significantly affects the environment. The paragraphs below analyze the project's potential to induce growth by removing a barrier to growth, by setting a land use precedent, or by fostering additional development.

Removing Barriers to Growth

The project does not include the extension of public infrastructure (water or sewer lines). The project is served via private ground water wells and a septic system will be constructed for the education campus. Electrical service is available in the immediate project vicinity. The project will not cause substantial growth inducement around the site; the project is consistent with the rural growth in this area.

Land Use Precedent and Fostering Development

The project is a Use Permit for a private training school for a trade industry. The training school is already established in the Cosumnes/Rancho Murieta community. Additional housing for instructors and/or students is not necessary. The project will not set a land use precedent as the proposed use is allowed provided approval of the Use Permit. The majority of the property will continue to be used as agricultural grazing land. Approval of the Use Permit and supporting project conditions is not precedent-setting.

Cumulative Impacts and Analysis

The CEQA Guidelines section 15355 defines a cumulative impact as "two or more individual effects which, when considered together, are considerable". An individual effect need not itself be significant to result in significant cumulative effects; the impact is the result of the incremental effects of the Project combined with the effects of "other closely related past, present, and reasonably foreseeable probable future projects." CEQA does not define "closely related", but the Code of Federal Regulations (40 CFR 1508.25) indicates that a "closely related" project is one which is automatically triggered by the Project; one which cannot proceed without the Project first proceeding (mutual dependency); one which requires the Project for justification or is an interdependent part of the same action; or one which is a similar action with common timing, geography, and other features.

The requirements for a cumulative analysis are described in CEQA Guidelines Section 15130. A cumulative analysis "need not provide as great detail as is provided for the effects attributable to the project alone." The analysis should focus on analyzing the effects of the project to which other projects contribute, to the extent practical and reasonable. These other projects may be identified either through the provision of a list of cumulative projects, or via a summary of projections contained in an adopted General Plan or an adopted EIR. This EIR uses a combination of the two methods, using projections contained in adopted General Plans and related planning documents, as well as known major reasonably foreseeable other projects.

The significance criteria used for analysis are the same as those used throughout the topical chapters of the EIR. Section 15130(a)(3) states that a Project's contribution to an impact is "less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures".

The cumulative setting is based upon the development forecasts of the adopted Sacramento Area Council of Governments' 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) development forecast. The MTP/SCS included development projections for Sacramento County, and its incorporated cities, as well as for adjacent counties and cities, based on adopted and in-development General Plans, Specific Plans, and Community Plans in each jurisdiction.

In addition to the MTP/SCS, proposed project within Sacramento County in the surrounding region. These are provided in the list below.

Project Number	Project Name	Location	Description	Status
Unincorporated Sacramento County				
1	Mather Field Specific Plan	Eastern Sacramento County along the Jackson Road highway	5,700 acres located on the former Mather Field AFB	Amended 2016
2	Cordova Hills	Southeastern Sacramento County	2,669 acres east and adjacent to Rancho Cordova	Approved 2013
3	Stoneridge Quarry	Eastern Sacramento County south of White Rock Road east of Scott Road	1,360 acres in the Cosumnes community	Approved 2012
4	Murieta Gardens I&II	Eastern Sacramento County along the Jackson Road highway	52 acres located in the Rancho Murieta community	Approved 2011
5	Teichert Quarry	Eastern Sacramento County south of White Rock Road east of Scott Road	584 acres in the Cosumnes community	Approved 2010
6	Rancho Murieta North	Eastern Sacramento County along the Jackson Road highway	772 acres located in the Rancho Murieta community	In-Process
7	NewBridge Specific Plan	Eastern Sacramento County along the Jackson Road highway	1,095 acres south of the Mather South Plan area, along Kiefer Boulevard	In Process
8	Jackson Township Specific Plan	Eastern Sacramento County along the Jackson Road highway	1,391 acres south of Mather Field, west of the Mather South Plan Area	In Process

Project Number	Project Name	Location	Description	Status
City of Rancho Cordova				
10	Arboretum	Within the Grant Line North Planning Area	1,349 acres bounded by Highway 16 to the south, Grant Line Road to the east, Kiefer Boulevard to the north, and Sunrise Boulevard to the west	Currently Inactive
11	Suncreek Specific Plan	Located in southern Rancho Cordova	1,265 acres located east of the Folsom Canal and due east from the Mather South Plan Area, north of Kiefer Boulevard	Approved 2013
12	Sunridge Ranch Specific Plan	Located in southern Rancho Cordova	2,606 acres south of Douglas Road, east of Sunrise Boulevard, and north of Grantline Road	Approved 2002
City of Folsom				
15	Folsom South of 50 Specific Plan	Eastern Sacramento County, south of U.S. 50 and west of Folsom city limits	3,510 acres south of U.S. 50, north of White Rock Road, east of Prairie City Road, and west of Sacramento/El Dorado County Line	Approved 2011

AGRICULTURAL LAND USE

The project will allow in perpetuity the operation of a private school in the southeast area of the County. This region of the county is largely agricultural land, conservation land and scattered rural homes. The existing disturbed area of 90 acres from the previous Use Permit constitutes the baseline condition for this analysis. The permanent conversion of 25 acres of grazing land for the education campus will reduce the amount of available grazing land. And the loss of 25 acres of grazing land is considered a less than significant impact under County General Plan Policies, and further the cumulative impact associated with the loss of this land in this region of the County is not significant. The remaining portion of the project site will re-enter into an active Williamson Act Contract and will continue to be leased out to local cattle ranchers. Cumulative impacts associated with agricultural land use is ***less than significant***.

AIR QUALITY

Project construction and operation will result in the generation of ozone precursors and particulate matter. Ozone precursors generated by construction and operation are below thresholds. This project together with all cumulative projects are subject to the same Sac Metro Air District rules and thresholds related to construction ozone precursors, and if necessary are required to offset emissions. On a cumulative level,

existing compliance with adopted rules and regulations will be sufficient to offset construction-related ozone precursor emissions. The project will not contribute to a cumulatively significant impact.

BIOLOGICAL RESOURCES

The project is located in the southeast portion of the County. This area is within the planning boundary of the South Sacramento Habitat Conservation Plan (SSHCP). The FEIR/EIS prepared for the SSHCP analyzed the cumulative impact and concluded that the conservation strategy is designed to ensure that the long-term productivity in the SSHCP planning area is maintained. Implementation of the SSHCP provides a comprehensive and balanced approach to natural resource preservation. The proposed project is not within the Urban Development Area of the SSHCP and the potential permanent preservation (project East and West Preservation Areas) if approved by state and federal permitting agencies outside of the Urban Development Area assists the SSHCP's goal of ensuring long-term productivity of cottonwood woodlands and vernal pool/seasonal wetland resources. The project will not contribute to a cumulatively significant impact.

CLIMATE CHANGE

The proposed project currently generates and will continue to generate greenhouse gas (GHG) emissions that would contribute to climate change. The project has been operating heavy equipment on a daily basis for the last 45 years, and the emissions from this current operation constitute the baseline condition for this analysis However, if the proposed project is added to the baseline, the project contributes to the County's GHG emission inventory.

As stated in the topical chapter, the *Guide to Off-Road Vehicle and Equipment Regulations*, produced by the CARB, identifies that for medium to large fleets, effective January 1, 2018, a fleet owner may not add a vehicle with Tier 2 or below engine. While the applicant will not be able to add lower tier equipment, they currently operate many pieces of equipment that are Tier 0, 1 and 2. These are the most polluting and contribute considerably to our region's GHG emissions. While climate change is itself a cumulative phenomenon and as areas around the world continue to develop and urbanize, associated mobile and stationary GHG emissions will increase, the project could commit to further reducing GHG emissions. The air quality and greenhouse gas analysis assumes a 15 percent increase in training activities above the baseline conditions that are currently operating at the site which is conservative by assuming growth beyond the current operation. With this assumption and application of Basic Construction Emission Control Practices (BCECP), project operations would result in 629 MT CO2e/year above the baseline condition. Combining this conservative analysis with increased regulation on engines and emissions over the next decade provides a very conservative assessment of project emissions. The project will not contribute to a cumulatively significant impact.

CULTURAL RESOURCES

Cumulative development in Sacramento County could significantly impact historic, archaeological, paleontological, geologic, or human resources. The archeology of prehistoric resources in their original contexts is crucial in developing an understanding of the social, economic, and technological character of the resources. The boundaries of an archeologically important site could extend beyond property boundaries. As a result, a meaningful approach to preserving and managing cultural research should focus on the likely distribution of cultural resources, rather than on project or parcel boundaries. The cultural system is represented archeologically by the total inventory of all sites and other cultural remains. However, proper planning and appropriate mitigation can help to capture and preserve knowledge of such resources and can provide opportunities for increasing understanding of the past environmental conditions and cultures by recoding data about any sites discovered and preserving artifacts found. Based on the finding of the records and literature search and field survey, mitigation has been proposed that attempts to document and preserve cultural resources that have been identified or may be encountered during construction of this project as well as other cumulative projects. This mitigation limits the cumulative contribution of impacts to cultural resources within the County to ***less than significant***.

HYDROLOGY AND WATER QUALITY

The project will adequately mitigate hydrology and water quality impacts. The annual amount of land to be disturbed will be consistent year over year. Review of proposed stormwater detention basins by County Department of Water Resources for each 80-acre field rotation. The project will not contribute to a cumulative impact to downstream hydrology or water quality.

INITIAL STUDY CHECKLIST

Appendix G of the California Environmental Quality Act (CEQA) provides guidance for assessing the significance of potential environmental impacts. Based on this guidance, Sacramento County has developed the following Initial Study Checklist. The Checklist identifies a range of potential significant effects by topical area. The words "significant" and "significance" used throughout the following checklist are related to impacts as defined by the California Environmental Quality Act as follows:

1 Potentially Significant indicates there is substantial evidence that an effect MAY be significant. If there are one or more "Potentially Significant" entries an Environmental Impact Report (EIR) is required. Further research of a potentially significant impact may reveal that the impact is actually less than significant or less than significant with mitigation.

2 Less than Significant with Mitigation applies where an impact could be significant but specific mitigation has been identified that reduces the impact to a less than significant level.

3 Less than Significant or No Impact indicates that either a project will have an impact but the impact is considered minor or that a project does not impact the particular resource.

	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact	Comments
1. **LAND USE** - Would the project:					
a. Cause a significant environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			X		The project proposes a private school on agricultural land. According to the Land Use Consistency Tables in the County Zoning Code, private schools are permitted in the AG-80 zone subject to a conditional Use Permit adopted by the Board of Supervisors. The conditional use permit allows for specific conditions to be placed on the construction and operation of the facility. Upon approval of the Use Permit for the proposed private school, the project would be consistent with environmental policies of the Sacramento County General Plan, and Sacramento County Zoning Code. Please refer to Appendix AG-1 Land Use Technical Study for a discussion of compatibility with applicable land use plans.
b. Physically disrupt or divide an established community?				X	The project will not create physical barriers that substantially limit movement within or through the community.
2. **POPULATION/HOUSING -** Would the project:					
a. Induce substantial unplanned population growth in an area either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of infrastructure)?				X	The project does not propose permanent housing and will neither directly nor indirectly induce substantial unplanned population growth.
b. Displace substantial amounts of existing housing, necessitating the construction of replacement housing elsewhere?				X	The project will not result in the removal of existing housing, and thus will not displace substantial amounts of existing housing.
3. **AGRICULTURAL RESOURCES** - Would the project:					

	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact	Comments
a. Convert Prime Farmland, Unique Farmland, Farmland of Statewide Importance or areas containing prime soils to uses not conducive to agricultural production?			X		The project will convert 25 acres of grazing land (as noted on the current Sacramento County Important Farmland Map published by the California Department of Conservation and the current reclamation plan) to non-agricultural uses. This conversion of agricultural land does not exceed the significance threshold of 50 acres established by the Sacramento County General Plan. Refer to the Agricultural Resources chapter in the Environmental Impact Report.
b. Conflict with any existing Williamson Act contract?			X		There is a Williamson Act contract in effect for the project site. The contract status is Active Nonrenewal. The project applicant is requesting to cancel a portion of the property (25 acre education campus) and to reinstate a large portion of the remaining property in the Williamson Act program. Refer to the Agricultural Resources Chapter in the Environmental Impact Report and Appendix AG-2.
c. Introduce incompatible uses in the vicinity of existing agricultural uses?			X		The project is located in an agricultural area of the County that largely supports rangeland/grazing activities. The project will expand the existing boundary of the training center and permanently remove 105 acres from agricultural uses. This loss of acreage will not substantially interfere with agricultural operations because the area surrounding the project site to the south and east will continue to provide large expanses of rangeland.
4. **AESTHETICS -** Would the project:					
a. Substantially alter existing viewsheds such as scenic highways, corridors or vistas?				X	The project does not occur in the vicinity of any scenic highways, corridors, or vistas.

	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact	Comments
b. In non-urbanized areas, substantially degrade the existing visual character or quality of the site and its surroundings?			X		The project is within an area of the County with large unfragmented areas of open space. The number and type of equipment proposed to be used at the training center will not change, and the area of active disturbance will not increase in size, but will move around within a 425 acre designated area. The project will also include the construction of a 25 acre education campus for classroom instruction. The nearest neighbor is approximately ½ mile away. Given the distance to the nearest viewer group and the nature of the project, the project is not expected to substantially alter the viewshed. For additional details on this discussion reference Appendix IS-1.
c. If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?				X	The project is not located within an urbanized area.
d. Create a new source of substantial light, glare, or shadow that would result in safety hazards or adversely affect day or nighttime views in the area?			X		The project proposes a new 25 acre education campus. New lighting would be installed for building security. This will introduce a new source of light in a rural area; however, the nearest sensitive receiver is approximately ½ mile away. The project will not result in safety hazards or adversely affect day or nighttime views in the area.
5. **AIRPORTS -** Would the project:					
a. Result in a safety hazard for people residing or working in the vicinity of an airport/airstrip?				X	The project occurs outside of any identified public or private airport/airstrip safety zones.
b. Expose people residing or working in the project area to aircraft noise levels in excess of applicable standards?				X	The project occurs outside of any identified public or private airport/airstrip noise zones or contours.
c. Result in a substantial adverse effect upon the safe and efficient use of navigable airspace by aircraft?				X	The project does not affect navigable airspace.

	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact	Comments
d. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X	The project does not involve or affect air traffic movement.
6. **PUBLIC SERVICES -** Would the project:					
a. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X		The project would utilize existing wells on the property. No new wells are required for the proposed project; however, there would be an increase in the consumption of groundwater for the proposed project. The increase in groundwater consumption would add incrementally to groundwater decline but would not itself constitute a significant environmental impact. Refer to the Hydrology and Water Quality chapter in the Environmental Impact Report. Also refer to the Appendix IS-2 for a Water Supply Assessment.
b. Have adequate wastewater treatment and disposal facilities for full buildout of the project?			X		Septic systems would be required. Compliance with County Environmental Management regulations for the installation and treatment of wastewater will ensure impacts are less than significant.
c. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impact the attainment of solid waste reduction goals?				X	The project is an existing operation within the County. The project is not increasing the number of students or staff. The amount of solid waste produced will not significantly change. Further, the Kiefer Landfill has capacity to accommodate solid waste until the year 2050.
d. Result in substantial adverse physical impacts associated with the construction of new water supply or wastewater treatment and disposal facilities or expansion of existing facilities?			X		The project will need to construct a new on-site wastewater system. In addition, on-site water wells will need to be tested and permitted to supply potable water.
e. Result in substantial adverse physical impacts associated with the provision of storm water drainage facilities?				X	Project is located outside of local stormwater management programs. Refer to the Hydrology and Water Quality chapter in the Environmental Impact Report.

	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact	Comments
f. Result in substantial adverse physical impacts associated with the provision of electric or natural gas service?				X	Minor extension of utility lines would be necessary to serve the proposed project. Existing utility lines are located along existing roadways and other developed areas, and the extension of lines would take place within areas already proposed for development as part of the project. No significant new impacts would result from utility extension.
g. Result in substantial adverse physical impacts associated with the provision of emergency services?				X	The project is an existing use and would not incrementally increase demand for emergency services.
h. Result in substantial adverse physical impacts associated with the provision of public school services?				X	The project will not require the use of public school services.
i. Result in substantial adverse physical impacts associated with the provision of park and recreation services?				X	The project will not require park and recreation services.
7. **TRANSPORTATION/TRAFFIC** - Would the project:					
a. Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b) – measuring transportation impacts individually or cumulatively, using a vehicles miles traveled standard established by the County?			X		The project site is currently being used for field instruction activities. Students are currently transported via vans to the site. These trips and vehicle miles traveled will not change. The relocation of the educational campus will account for a change in location for some instructors but, generally would not exceed existing trips as the two locations are within close proximity.
b. Result in a substantial adverse impact to access and/or circulation?			X		No changes to existing access and/or circulation patterns would occur as a result of the project. Regardless, the project will be required to comply with applicable access and circulation requirements of the County Improvement Standards and the Uniform Fire Code. Upon compliance, impacts are less than significant.

	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact	Comments
c. Result in a substantial adverse impact to public safety on area roadways?			X		No changes to existing access and/or circulation patterns would occur as a result of the project. Regardless, the project will be required to comply with applicable access and circulation requirements of the County Improvement Standards and the Uniform Fire Code. Upon compliance, impacts are less than significant.
d. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X	The project does not conflict with alternative transportation policies of the Sacramento County General Plan, with the Sacramento Regional Transit Master Plan, or other adopted policies, plans or programs supporting alternative transportation.
8. **AIR QUALITY** - Would the project:					
a. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?			X		The California Emissions Estimator Model (CalEEMod) was used to analyze ozone precursor emissions; the project will not result in emissions that exceed standards. Compliance with existing dust abatement rules and standard construction mitigation for vehicle particulates will ensure that construction air quality impacts are less than significant. Refer to the Air Quality chapter of the Environmental Impact Report.
b. Expose sensitive receptors to pollutant concentrations in excess of standards?				X	There are no sensitive receptors (i.e., schools, nursing homes, hospitals, daycare centers, etc.) adjacent to the project site.
c. Create objectionable odors affecting a substantial number of people?				X	The project will not generate objectionable odors.

	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact	Comments
9. **NOISE -** Would the project:					
a. Generation of a substantial permanent increase in ambient noise levels in excess of standards established by the local general plan, noise ordinance or applicable standards of other agencies?			X		The project is an existing noise source that will expand the geographical source location of noise. The nearest noise receptor is over ½ mile away from the closest edge of proposed field instruction area. The center of field instruction is located over a mile from the nearest receptors. Noise generated at the project site will not exceed standards established by the Sacramento County General Plan or noise ordinance for the nearest sensitive receptor. Refer to the Noise chapter of the Environmental Impact Report.
b. Result in a substantial temporary increase in ambient noise levels in the project vicinity?			X		Construction of the learning campus will result in a temporary increase in ambient noise levels in the project vicinity. This impact is less than significant due to the temporary nature of the these activities, limits on the duration of noise, and evening and nighttime restrictions imposed by the County Noise Ordinance (Chapter 6.68 of the County Code).
c. Generate excessive groundborne vibration or groundborne noise levels?				X	The project will not involve the use of pile driving or other methods that would produce excessive groundborne vibration or noise levels at the property boundary.
10. **HYDROLOGY AND WATER QUALITY** - Would the project:					
a. Substantially decrease groundwater supplies or substantially interfere with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X		The project will incrementally add to groundwater consumption; however, the singular and cumulative impacts of the proposed project upon the groundwater decline in the project area are minor. Refer to the Water Supply technical report Appendix IS-2 for further details.

	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact	Comments
b. Substantially alter the existing drainage pattern of the project area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would increase the rate or amount of runoff result in flooding on- or off-site?			X		Compliance with applicable requirements of the Sacramento County Floodplain Management Ordinance, Sacramento County Water Agency Code, and Sacramento County Improvement Standards will ensure that impacts are less than significant. Refer to the Hydrology and Water Quality chapter in the Environmental Impact Report.
c. Impede or redirect flood flows?				X	The project site is not within a 100-year floodplain.
d. Create or contribute runoff that would exceed the capacity of existing or planned stormwater drainage systems?		X			The project will require sediment detention basins to capture runoff from the field instruction area. Mitigation requiring review of proposed drainage sheds and capture basins for every new rotational field instruction area will ensure that runoff would not exceed the capacity of existing stormwater drainage systems.

	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact	Comments
e. Create substantial sources of polluted runoff or otherwise substantially degrade ground or surface water quality?			X		Compliance with the Stormwater Ordinance and Land Grading and Erosion Control Ordinance (Chapters 15.12 and 14.44 of the County Code respectively) will ensure that the project will not create substantial sources of polluted runoff or otherwise substantially degrade ground or surface water quality. All aboveground storage tanks are subject to federal and State regulations pertaining to operating standards, leak reporting requirements, and corrective action requirements. The County Environmental Management Department enforces these regulations. Existing regulations will ensure that impacts are less than significant. Sacramento County Code Chapters 6.28 and 6.32 provide rules and regulations for water wells and septic systems that are designed to protect water quality. The Environmental Health Division of the County Environmental Management Department has permit approval authority for any new water wells and septic systems on the site. Compliance with existing regulations will ensure that impacts are less than significant. Refer to the Hydrology and Water Quality chapter in the Environmental Impact Report.
f. Is the project within a 100-year floodplain as mapped on a federal Flood Insurance Rate Map or within a local flood hazard area?			X		The project is not within a 100-year floodplain as mapped on a federal Flood Insurance Rate Map, but it is in an area considered a local floodplain. Refer to the Hydrology and Water Quality chapter in the Environmental Impact Report.
g. Develop in an area that is subject to 200 year urban levels of flood protection (ULOP)?				X	The project is not located in an area subject to 200-year urban levels of flood protection (ULOP).

	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact	Comments
h. Conflict with or obstruct implementation sustainable groundwater management plan?				X	The project is within the Sloughhouse Resource Conservation District. A formal sustainable groundwater management plan has not been drafted. The project would not conflict or obstruct the implementation of the plan. Refer to the Hydrology and Water Quality chapter in the Environmental Impact Report.
11. **GEOLOGY AND SOILS** - Would the project:					
a. Directly or indirectly cause potential substantial 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?			X		Sacramento County is not within an Alquist-Priolo Earthquake Fault Zone. Although there are no known active earthquake faults in the project area, the site could be subject to some ground shaking from regional faults. The Uniform Building Code contains applicable construction regulations for earthquake safety that will ensure less than significant impacts.
b. Result in substantial soil erosion, siltation or loss of topsoil?			X		Compliance with the County's Land Grading and Erosion Control Ordinance will reduce the amount of construction site erosion and minimize water quality degradation by providing stabilization and protection of disturbed areas, and by controlling the runoff of sediment and other pollutants during the course of construction.
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, soil expansion, liquefaction or collapse?			X		Pursuant to Title 16 of the Sacramento County Code and the Uniform Building Code, a soils report will be required prior to building construction. If the soils report indicates than soils may be unstable for building construction then site-specific measures (e.g., special engineering design or soil replacement) must be incorporated to ensure that soil conditions will be satisfactory for the proposed construction.

	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact	Comments
d. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available?			X		All septic systems must comply with the requirements of the County Environmental Management Department, Environmental Health Division, as set forth in Chapter 6.32 of the County Code. Compliance with County standards will ensure impacts are less than significant.
e. Result in a substantial loss of an important mineral resource?				X	The project is not located within an Aggregate Resource Area as identified by the Sacramento County General Plan Land Use Diagram, nor is there a significant amount any important mineral resources located on the project site.
f. Directly or indirectly destroy a unique paleontological resource or site?			X		The project site is located on the Laguna Formation and the Mehrten formation. These formations are associated with the Pliocene era and paleontological resources (e.g. fossil remains) have been found in these formations in Sacramento County. The project involves the use of heavy equipment to train equipment operators and some of that training involves digging to a depth of 12 feet. It is unlikely that paleontological resources will be encountered.
12. **BIOLOGICAL RESOURCES** - Would the project:					
a. Have a substantial adverse effect on any special status species, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community?	X				The project site contains suitable habitat for vernal pool invertebrates and plants. Other species which may utilize the project site include Swainson's Hawk, burrowing owl, California tiger salamander, Western Spadefoot toad, and Valley elderberry longhorn beetle. Mitigation is included to reduce impacts to less than significant levels. Refer to the Biological Resources chapter in the Environmental Impact Report.
b. Have a substantial adverse effect on riparian habitat or other sensitive natural communities?	X				The proposed impacted area of the project site contains 40.39 acres of cottonwood woodland habitat. Mitigation is included to reduce impacts to less than significant levels. Refer to the Biological Resources chapter in the Environmental Impact Report.

	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact	Comments
c. Have a substantial adverse effect on streams, wetlands, or other surface waters that are protected by federal, state, or local regulations and policies?	X				The project will result in the loss of approximately 3.84 acres of protected wetlands. Mitigation is included to require no net-loss. Refer to the Biological Resources chapter in the Environmental Impact Report.
d. Have a substantial adverse effect on the movement of any native resident or migratory fish or wildlife species?		X			The project will involve the removal of mature trees. Resident and/or migratory wildlife may be displaced by project construction; however, impacts are not anticipated to result in significant, long-term effects upon the movement of resident or migratory fish or wildlife species, and no major wildlife corridors would be affected.
e. Adversely affect or result in the removal of native or landmark trees?		X			The project involves the removal of mature native and non-native trees. Tree removal is analyzed on a habitat/canopy bases and mitigation is included to ensure impacts are less than significant. Refer to the Biological Resources chapter in the Environmental Impact Report.
f. Conflict with any local policies or ordinances protecting biological resources?				X	The project is consistent with local policies/ordinances protecting biological resources.
g. Conflict with the provisions of an adopted Habitat Conservation Plan or other approved local, regional, state or federal plan for the conservation of habitat?				X	The project is located outside of the urban development area of the South Sacramento Habitat Conservation Plan. Nearby or adjacent preserves will not be impacted by the proposed project. There are no known conflicts with any approved plan for the conservation of habitat.
13. **CULTURAL RESOURCES -** Would the project:					
a. Cause a substantial adverse change in the significance of a historical resource?			X		Historical resources have been identified on the project site. These resources would not be affected by the proposed project. Refer to the Cultural Resources chapter in the Environmental Impact Report.

	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact	Comments
b. Have a substantial adverse effect on an archaeological resource?		X			An archaeological survey was conducted on the project site. Refer to the Cultural Resources chapter in the Environmental Impact Report.
c. Disturb any human remains, including those interred outside of formal cemeteries?		X			No known human remains exist on the project site. Nonetheless, mitigation has been recommended to ensure appropriate treatment should remains be uncovered during project implementation.
d. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074?		X			Notification pursuant to Public Resources Code 21080.3.1(b) was provided to the tribes and request for consultation was received. Refer to the Cultural Resources chapter in the Environmental Impact Report.
14. **HAZARDS AND HAZARDOUS MATERIALS** - Would the project:					
a. Create a substantial hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?					The project involves the use of a mobile fuel and lubrication truck to service vehicles on-site. An approved spill prevention, control and countermeasure plan will be prepared in the event of a spill in operating areas.
b. Expose the public or the environment to a substantial hazard through reasonably foreseeable upset conditions involving the release of hazardous materials?			X		The project involves the storage of hazardous materials on the site (i.e., above-ground storage tanks). However, compliance with local, state and federal standards regarding the construction and maintenance of these tanks will provide adequate protection from upset conditions.
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school?				X	The project site is not located within ¼ mile of an existing /proposed school.
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, resulting in a substantial hazard to the public or the environment?				X	The project is not located on a known hazardous materials site.

	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact	Comments
e. Impair implementation of or physically interfere with an adopted emergency response or emergency evacuation plan?				X	The project would not interfere with any known emergency response or evacuation plan.
f. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X		The project is located within the State Responsibility Area according to the CalFire Fire Hazard Severity Zones Map (updated June 2019). The project is proposing large open space areas which could be subject to wildland fires. Application of State Building Code for wildfire exposure - ensures impacts are less than significant.
15. WILDFIRE – Would the project:					
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?			X		The project is located within the State Responsibility Area according to the CalFire Fire Hazard Severity Zones Map (updated June 2019). The project would not substantially impair an adopted emergency response plan or emergency evacuation plan.
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			X		The location and existing natural environment does not exacerbate the existing wildfire risks.
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			X		The project will be extending utility lines to the proposed campus area. Vegetation management around the utility lines will be maintained to the satisfaction of the local utility district. There are existing roads and detention ponds that are maintained and could serve as fire access roads or a source of water if necessary. Project impacts are less than significant.
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				X	The project is gently rolling grassland interrupted by mine tailings and would not expose people or structures to significant risks downslope or downstream to flooding or landslides.

	Potentially Significant	Less Than Significant with Mitigation	Less Than Significant	No Impact	Comments
16. ENERGY - Would the project:					
a. Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X		While the project will introduce a new building and energy consumption, compliance with Title 24, Green Building Code, will ensure that all project energy efficiency requirements are met resulting in less than significant impacts.
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				X	The project will comply with Title 24, Green building Code, for all project energy efficiency requirements.
17. GREENHOUSE GAS EMISSIONS – Would the project:					
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?		X			The California Emissions Estimator Model (CalEEMod) was used to estimate the greenhouse gas emissions associated with the project. Based on the results, the project will not exceed the Sacramento Metropolitan Air Quality Management District's 1,100 annual metric tons screening threshold. This is based on certain modeling assumptions that are recommended as mitigation measures to ensure emission reductions are obtained. The project will not have the potential to interfere with the County meeting the goals of AB 32 (reducing greenhouse gas emissions to 1990 levels by 2020); therefore, the climate change impact of the project is considered less than significant.
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of greenhouse gases?				X	The project is consistent with County policies adopted for the purpose or reducing the emission of greenhouse gases.

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LIST OF ACRONYMS

AAQS	Ambient Air Quality Standards
ARB	California Air Resources Board
BCECP	Basic Construction Emission Control Practices
CalEEMod	California Emissions Estimator Model
Cal EPA	California Environmental Protection Agency
CAP	Climate Action Plan
CARB	California Air Resources Board
CBC	California Uniform Building Code
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CDHP	California Department of Public Health
CDFW	California Department of Fish and Wildlife
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	Carbon Monoxide
CWA	Clean Water Act
DOC	California Department of Conservation
DTSC	State Department of Toxic Substances Control
DWR	California Department of Water Resources
EIR	Environmental Impact Report
EMD	Sacramento County Environmental Management Department
EMFAC	Emissions Factor Model
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FMMP	State Farmland Mapping and Monitoring Program
GHG	Greenhouse Gas
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
ICLEI	Local Governments for Sustainability
KSF	Thousand Square Feet
MBTA	Migratory Bird Treaty Act
MPO	Metropolitan Planning Organization
NAHC	Native American Heritage Commission
NOA	Naturally Occurring Asbestos
NPDES	National Pollutant Discharge Elimination System Permit

OE3	Operating Engineers Local #3
PER	Office of Planning and Environmental Review
PG&E	Pacific Gas and Electric Company
PM	Particulate Matter
Regional Water Board	Central Valley Regional Water Quality Control Board
ROG	Reactive Organic Gasses
SCC	Sacramento County Code
SCWA	Sacramento County Water Agency
SGMA	Sustainable Groundwater Management Act
SNFA	Sacramento Federal Nonattainment Area
SMAQMD	Sacramento Metropolitan Air Quality District
SMARA	Surface Mining and Reclamation Act
SMUD	Sacramento Municipal Utility District
SIP	State Implementation Plan
SSHCP	South Sacramento Habitat Conservation Plan
State Water Resources	California State Water Resources Control Board
SWPPP	Stormwater Pollution Prevention Plan
TAC	Toxic Air Contaminants
TMDL	Total Maximum Daily Load
USB	Urban Services Boundary
USBR	U.S. Bureau of Reclamation
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Gasses
WDID	Waste Dischargers Identification Number